Ranger Rick's nature magazine

February, 1967

Published by The National Wildlife Federation

You Know Something George Washington Didn't Know by Dorothy Shuttlesworth

We celebrate George Washington's birthday this month and you might wish that a time machine could take you back nearly two hundred years so that you could talk with him.

President Washington was a smart and well-educated man, but if you asked him: "Mr. President, what kind of dinosaur is in the picture on this page?" you would have this surprising answer: "What is a dinosaur?"

In his time there was no such word. The fossil remains of these strange prehistoric reptiles had not been discovered. An English scientist, Sir Richard Owen, named such huge reptiles *Dinosauria* more than fifty years after President Washington's time.

The dinosaur, or terrible lizard, in the picture is properly called Gorgosaurus. It lived about 80 million years ago in Canada. From skull to tail it was 30 feet long and stood 14 feet high, as tall as a double-deck bus. Its hind legs were BIG and the three-toed feet had large claws. The front legs were very small and had only two clawlike fingers.

You can read more about strange prehistoric creatures on Page 16 in this issue of Ranger Rick's Nature Magazine.

Picture painted by Rudolph F. Zallinger for National Wildlife Federation.

OBJECTIVES: To give boys and girls a year-round program of activities, adventure and knowledge which will help them appreciate and enjoy nature. To help them know and respect all things that grow and creatures that move, that all may desire to conserve and wisely use the vital natural resources of the world.

February, 1967

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How About a P

A young koala of Australia sticks with Mother even after he leaves her pouch.

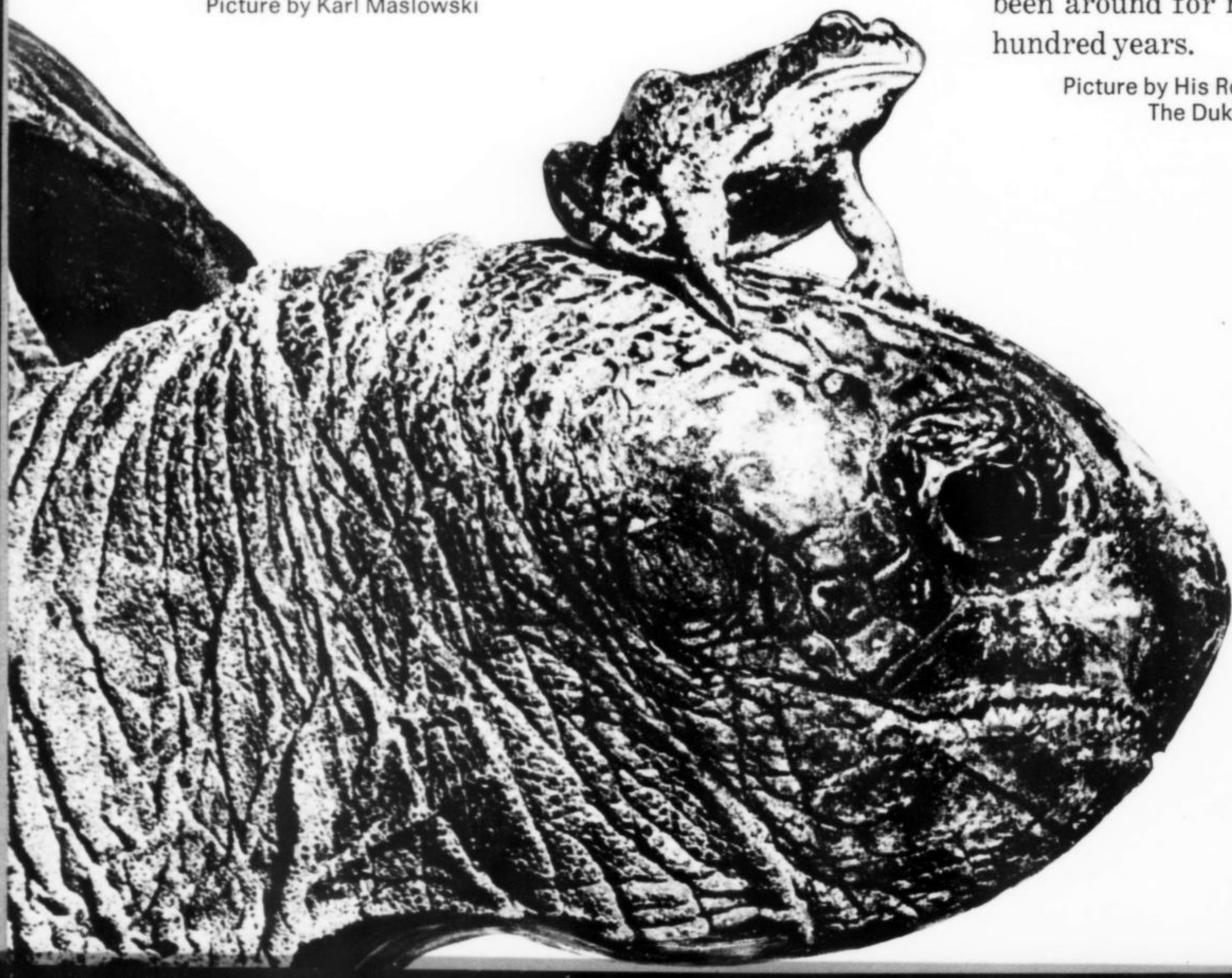
Picture by George Leavens

RIGHT — Surprise! Shy wood duck finds a safe perch on Labrador retriever.

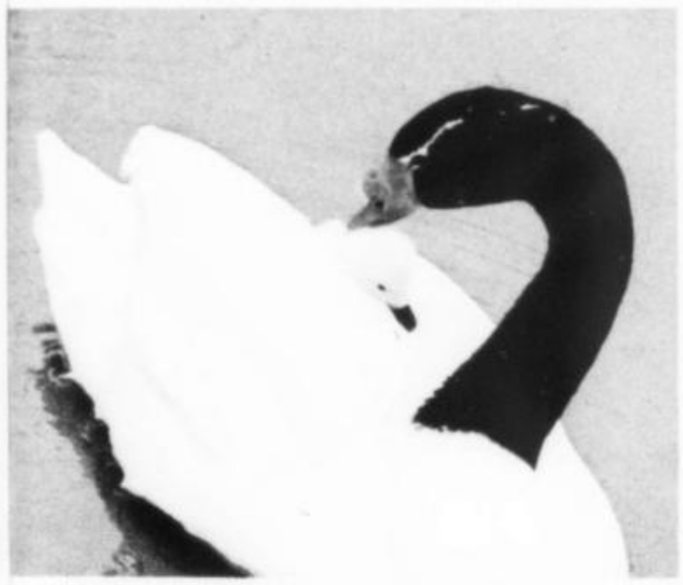
Picture by Karl Maslowski

Children are not the only ones who like to ride piggyback, as these animal photographs from around the world show. The frog—BELOW—is hitching a ride on the head of a giant tortoise found only in the Galapagos Islands of the Pacific Ocean. This very tortoise may have been around for nearly two-hundred years.

Picture by His Royal Highness, The Duke of Edinburgh



Ride?



When Mother calls, baby swan will go to the safe downy hollow of her wing. This black-necked swan is from South America.

Picture by Russ Kinne

ABOVE — Australia's man-sized kangaroo has bee-sized babies. This four-month-old youngster often hops from his mother's pouch to nibble grass beside her.

Picture by Bill Brindle

BELOW — Young opossums use their long hairless tails for hanging on to Mother—or anything else that is handy.

Picture by Jack Dermid

PORKY THE PINCUSHION

Story and pictures by Leonard Lee Rue, III

Do you know which animal waddles like a duck and makes a rustling noise when it walks? Has more stickers on its body than a rose bush? Is so nearly blind that it sees objects only when they move? Has front teeth which never stop growing?

If you said a porcupine you were right. Maybe you already knew some of these things, but if not, the pictures on this page and on our front cover may have given you a clue.

Porcupines are found in wooded areas over most of North America except in the Southeast and the Great Plains states. They live in hollow trees, a burrow or a rocky den in the forest because most of their food comes from trees. They eat twigs, leaves, buds and even the inner bark. Almost every part of the tree except the wood itself is eaten. When they are on the ground, they eat grasses and herbs.

To help it get its food, the porcupine has four large, strong, bright-orange teeth in the front of its mouth, two on the top and two on the bottom. These teeth grow constantly and therefore porcupines, like other rodents, have to chew constantly to keep them worn down to the right size.

Porcupines' quills have made them famous. No other animal in the United States has quills for protection. Quills are stiffened hairs that range in length from one quarter of an inch up to about four inches. They are white and have little black tips which are needle sharp and have hundreds of tiny barbs like hooks.

There are about 32,000 quills on a "porky" and most people think that he can throw them at an enemy. This is not true. The quills are loosely fastened to the skin and when they are touched they stick to the unfortunate attacker.

Some animals are foolish enough to bite a porcupine and get their mouths full of quills. Or as they get close, the porcupine may slap them full of quills with its long, strong tail.

When quills enter the enemy's flesh, they are held in by the barbs; and they work in more deeply every time the animal moves. Even humans must use pliers to pull out quills.

Drawing by Jim Woodend

This is an enlarged porcupine quill. It has a scaled part near the tip. In the circle is a microscopic view showing how the scales are arranged on a quill like shingles on a roof.

Eastern porcupines have black or gray guard hairs. Their Western cousins, like the one on our front cover, have yellow guard hairs.

Top left
A footprint in the mud shows you that he walks flat-footed, which makes him waddle.

Center
The bottoms of its feet are covered with suction cups, and the five toes have long, sharp claws which help the porcupine climb trees on which he feeds and in which he lives.

In spite of their excellent protection the porcupines are sometimes killed by a fisher, lynx or cougar. These predators know that the porcupine has no quills on its soft belly. They kill the porcupines by flipping them over on their backs and tearing at the unprotected belly.

The quills also act as a life preserver when the porcupine swims. Because the quills are hollow and filled with air they keep him floating high in the water.

The dense coat of warm fur around all of its quills keeps the porcupine warm even in very cold weather. When there is deep snow on the ground a porcupine may live in one tree for several weeks. It may stay until most of the bark has been eaten. Porcupines are active all year long and at any time of the day or night.

please turn the page

Young porcupines are born in March, April or May. Usually the mother has only one baby. The baby is about ten inches long and weighs a little over one pound when it is born. It can climb trees when it is only a day or two old. Mother porcupine nurses her young for about two weeks. Then the baby starts to feed on plants and trees and can take care of itself.

Because porcupines feed in trees almost from birth, they have to be very good climbers. The five toes on each foot have long, sharp claws, and the sole of the foot has little suction cups all over it that help the animal to climb. When a porcupine walks, it walks on its whole foot, just as you do. This flatfootedness is part of the reason why it waddles when it walks.

A Western porcupine, sensing the nearness of an enemy, erects its quills to be ready if attacked.

When it is full grown, a porcupine is about three feet long, including its tail. Most of them weigh about fifteen pounds, but a few big ones may weigh as much as thirty pounds.

Porcupines like salt as much as we like to eat candy. To get salt they will chew on anything they can find that man has

touched with sweaty hands. They will come into a camp and chew up axe handles, gun stocks, canoe paddles and even clothing. This is one reason why some people dislike porcupines.

Other people dislike them because they kill trees. But in most areas the porcupine doesn't do that much damage.

I still like porcupines. They are usually such peaceful creatures and just want to be left alone. I like to watch porcupines but always from a good safe distance!

THE END

YOU CAN SHARE THE FUN & EXCITEMENT OF RANGER RICK'S NATURE CLUB WITH YOUR FRIENDS & FORM A NEIGHBORHOOD OR CLASS CLUB TOO!

HERE'S HOW . . .

FIRST, show your Ranger Rick's Nature Magazine to your friends or classmates and tell them that they can get their own copies and enjoy all the benefits of membership by joining the club too.

SECOND, show your magazine to your friends' parents and have your friends ask their parents for permission to join Ranger Rick's Nature Club. Or, show the magazine and this form to your teacher and ask to have a class club.

FINALLY, have your friends or their parents complete the applications for membership provided on the other side of this page (list additional names and addresses on a separate sheet) and mail them to us with a payment of $6.00 for each membership requested.

THEN, when there are five members of the club (including yourself) in your neighborhood, you will be eligible to receive an official neighborhood club certificate by sending us your names and membership numbers. Your club will then be eligible to compete for the special club prizes listed on this form. There are also special certificates and special prizes for school class clubs.

SPECIAL MONTHLY AWARDS FOR CLUBS

NEIGHBORHOOD CLUB AWARDS

1 GOLD STAR PENNANT—Awarded to the club with the most members. (This award may only be won by a club once a year.)

2 GOLD BANNER PENNANT—Awarded for the best club project of the month.

SCHOOL CLASS CLUB AWARDS

1 MOST MEMBERS CERTIFICATE—Awarded to the class club with the most individual members in RANGER RICK'S NATURE CLUB. (This award may only be won by a class once a year.)

2 CONSERVATION E PENNANT—Awarded for Excellence in having the best class project of the month.

PRIZES AND AWARDS FOR INDIVIDUALS

All Rangers are eligible to compete for the following prizes and awards on an individual basis:

1 FREE ALL EXPENSE PAID TRIP to SAN FRANCISCO or WASHINGTON, D.C. for a Ranger and his or her parents will be won by a Ranger with an outstanding record of nature and wildlife activity.

2 $1,000 COLLEGE SCHOLARSHIP TRUST FUND payable upon graduation from high school will be awarded in recognition of an outstanding achievement record in nature and wildlife activity.

3 ASSORTED PRIZES including ten sets of childrens' bird and animal books and 100 sets of wildlife trading cards and albums.

IMPORTANT NOTICE: 1967 competition for the individual prizes above closes February 1, 1967! SEND YOUR APPLICATION FOR MEMBERSHIP TODAY—DON'T DELAY.

4 BLUE RIBBON AWARD will be given monthly for the best conservation poster received.

RANGER RICK ORDER FORMS

Name_____
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Please have your friends clip and use these convenient order forms. For additional orders simply furnish name and address on a separate sheet of paper and enclose $6.00 payment for each membership ordered.

Send all orders and make checks payable to:

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YOU WILL RECEIVE 8 BIG BENEFITS AS A MEMBER OF RANGER RICK'S NATURE CLUB IF YOU JOIN NOW:

1 10 issues of Ranger Rick's Nature Magazine

2 A Charter Member Certificate (Only Rangers joining in time to receive the January issue of the magazine will receive Charter Member Certificates.)

3 A personalized membership card

4 A membership badge

5 A membership decal for bike or wagon

6 A discount on special Children's Books

7 A discount on special Ranger Rick items

8 A chance to earn free trips, scholarships, books, trading cards and albums (Join now to be eligible for the first Annual Contest which closes February 1, 1967.

A FULL YEAR OF FUN & EXCITEMENT FOR ONLY $6.00!

DOUBLE PUZZLE VALENTINES

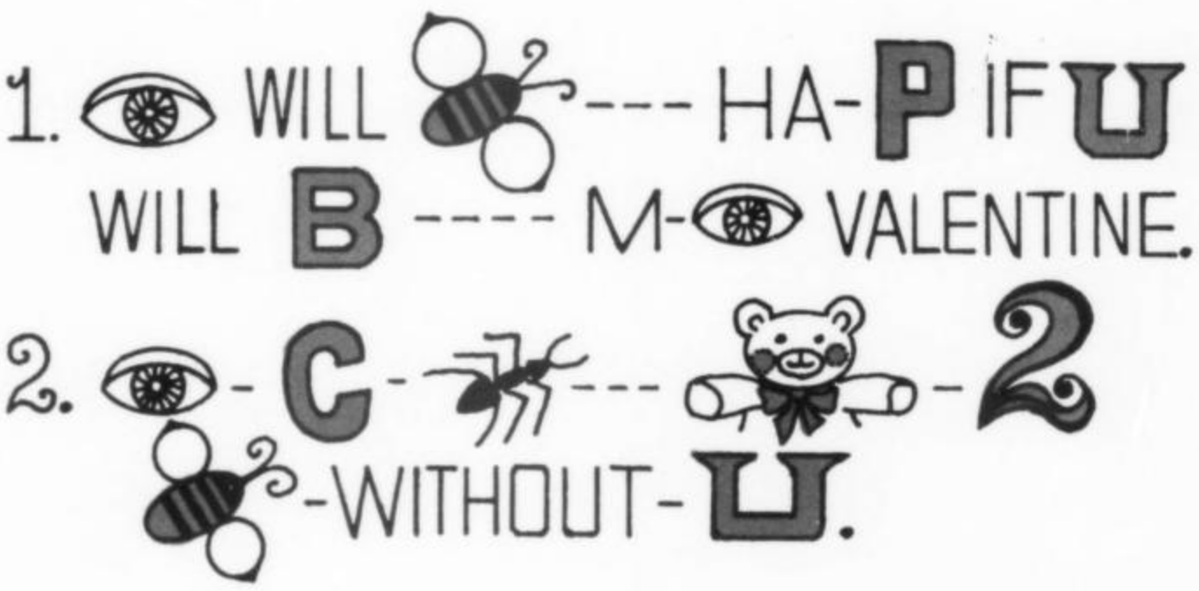
by Sara Murphey

1. Fold a 9-by-12-inch piece of red construction paper in half and then in half again. Open it out and cut it into four pieces along the folds.

2. Fold one of the four red pieces in half the short way.

3. Place the half-a-heart pattern which you have traced from the one shown on this page with its straight edge on the fold. Trace around the curved part and cut out along this line. Don't cut the fold. Open it and you have a heart.

The messages on the valentines pictured are written in the form of a rebus puzzle. You can read them by sounding the letters and saying the names of the things pictured.



Messages can be printed and drawn with a black ballpoint pen right on the red hearts. Or you can cut out white hearts, then make them a little smaller by cutting a wavy line around the edges while they are still folded. Paste a white heart on a red one and write your message in red pencil and black ink.

4. Cut each heart into three pieces, like a jigsaw puzzle. Put them in an envelope and on the outside write the following rebus or make up one of your own.

H- is my ♥ in -ces.
PUT them 2-gether and U-will
C just how much U-R 2 me.

Will living things grow in

The kingdom of nature lies all about us on earth. But remember, it also reaches down deep into the center of the earth, to the deepest parts of the ocean and out to the farthest stars.

What's it like up there in outer space?

Can you imagine a place with no air at all, where it can be hundreds of degrees hotter than boiling water in the sun and hundreds of degrees colder than ice in the shade?

Can you think what it would be like to see the sun rise and set every hour and a half—and to be floating free, without any way to tell *up* from *down*?

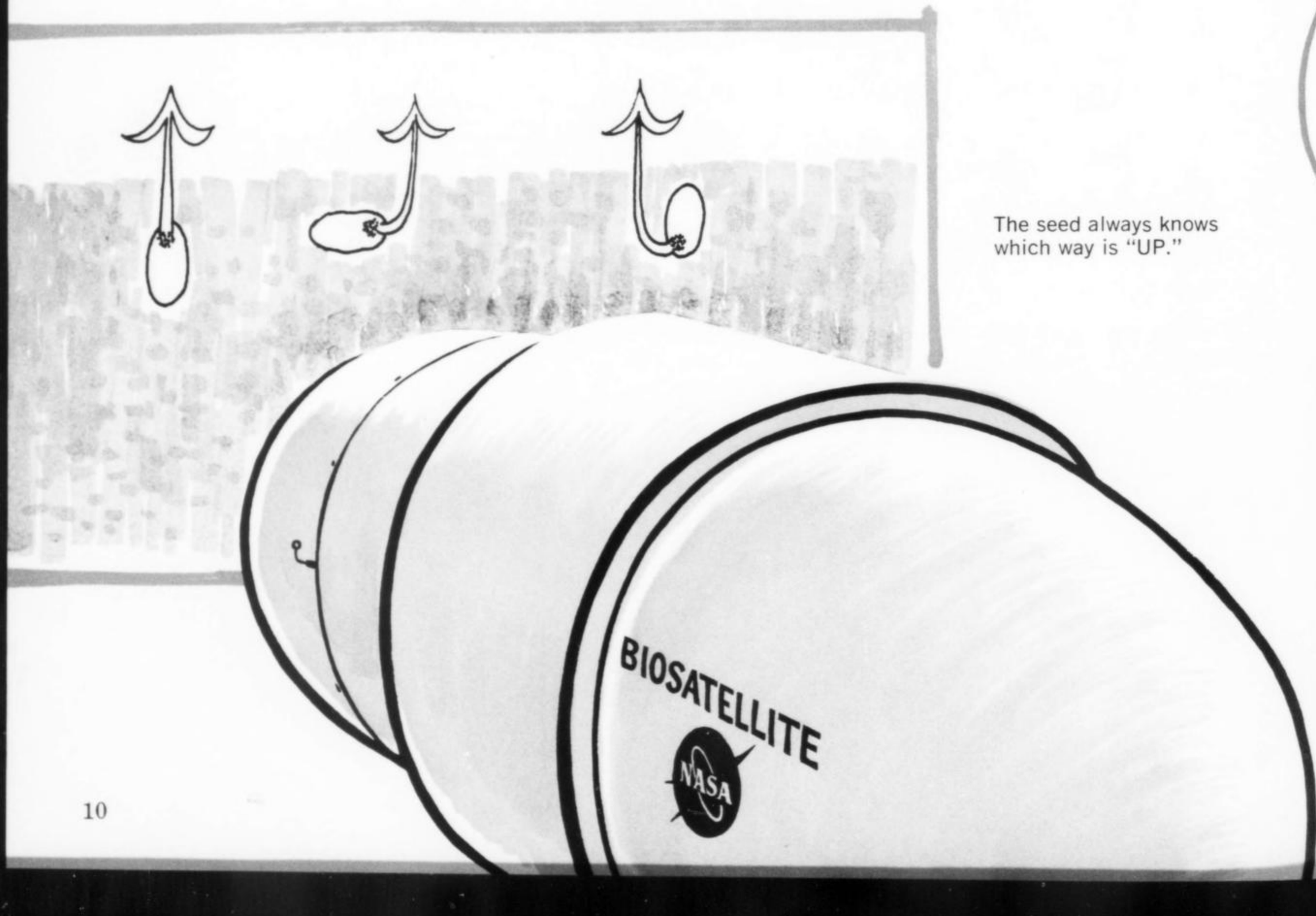
Our scientists are wondering what this would do to all kinds of plant and animal life.

We know that only a few forms of life can live without air. We know that all forms of life would eventually die in the bitter cold or blazing heat of outer space.

By putting living things inside a spacecraft, we can give them air, and we can guard them from heat and cold. But there are two things we cannot do—we cannot protect them from that free floating, called weightlessness, and we cannot give them a 24-hour day with regular sunrises and sunsets. Are these things important?

Well, you know how important it is for you to know which way is *up* and which is *down*. Without this knowledge you wouldn't be able to stand up, and certainly not to run or climb.

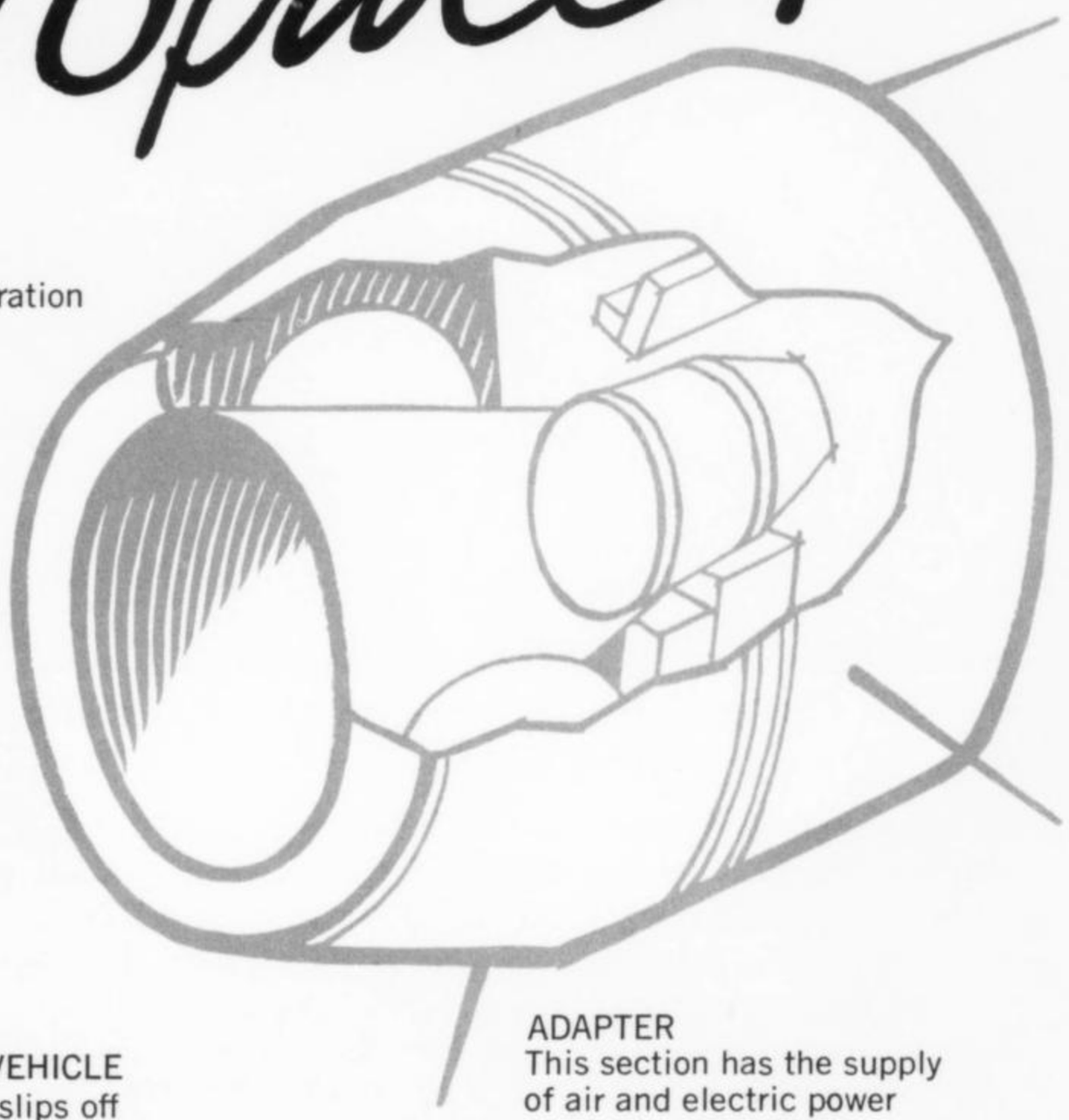
Also, although you may not know it, your good health depends on regular periods of sleep



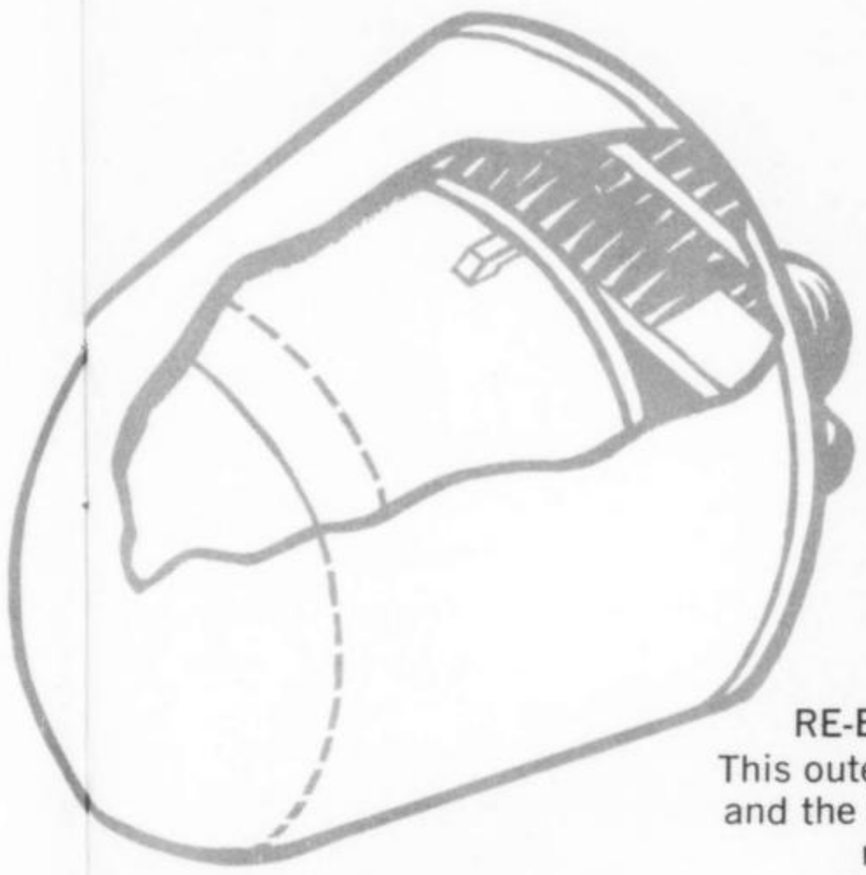
The seed always knows which way is "UP."

Outer Space?

by Lloyd E. Jones, Jr.
National Aeronautics and Space Administration



ADAPTER
This section has the supply of air and electric power for the satellite flight.



RE-ENTRY VEHICLE
This outer cover slips off and the inside container returns to Earth.

and waking—of light and dark. To simple plants and animals these things are also important.

On earth a plant seed or an animal egg has weight. It can tell which way is *down.* Frog eggs have light and dark parts and the light part will always be at the bottom when the egg begins to divide to make a tadpole. A wheat seed will sprout from the germ part of the seed, and the sprout seems to know which way is *up* so that it can grow in that direction. You can see this in the picture. All seeds behave this way.

The question is—what will happen to seeds and eggs out there in space where there is no *up* and no *down?*

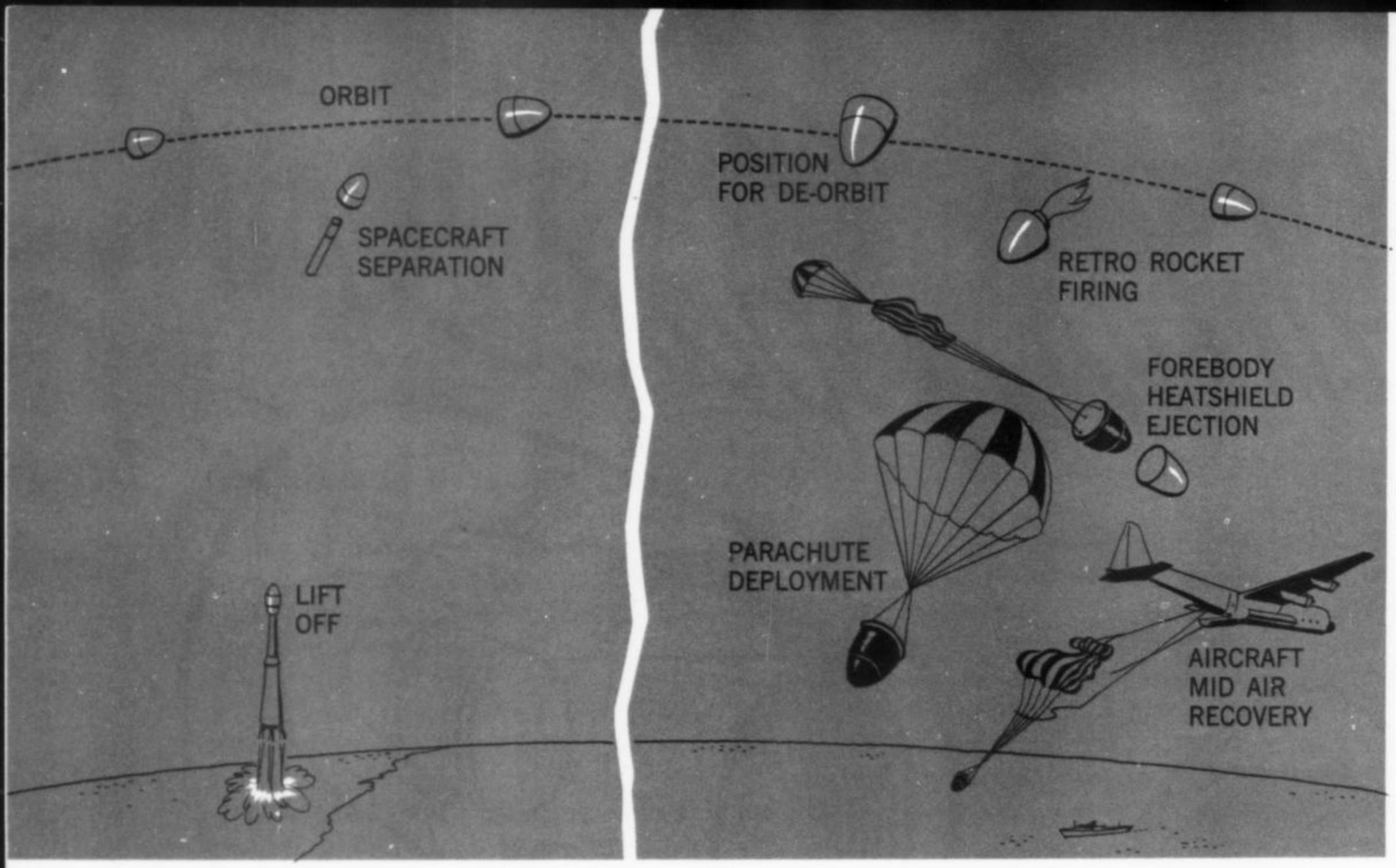
Did you know that both plants and animals are so used to our regular periods of light and dark here on earth that some may become ill and even die if those periods are changed?

You may notice that some flowers close at night, while others open. Some insects come out *just* at sunset. Certainly the rooster seems to know when the sun is about to rise.

Would living things be bothered by a "day" only 45 minutes long—the kind of day we have when in orbit around the earth?

To help answer all these hard questions, scientists and engineers have built a spacecraft called BIOSATELLITE. You can see how BIOSATELLITE looks in the picture. It is about twice as big and twice as heavy as a large refrigerator such as you have in your kitchen. Last year a large rocket was used to put the first BIOSATELLITE into orbit about 200 miles above the earth. On board were wheat seeds,

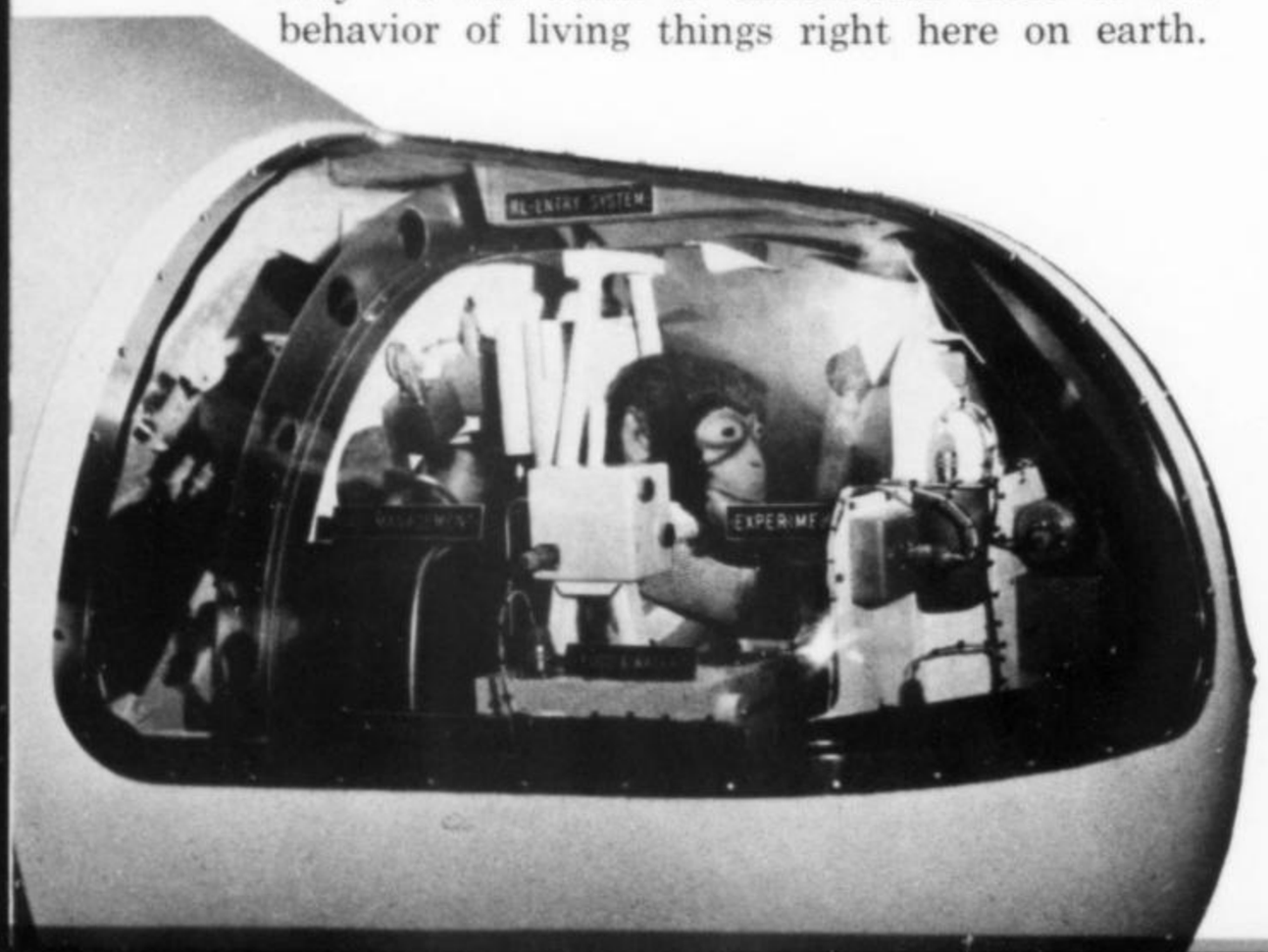
please turn the page



The drawing above shows the stages of the satellite from lift off at the beginning to the return to earth. A jet airplane picks up the experiments and flies them to the laboratory where they can be studied.

pepper plants, fruit flies and many other small living things. After three days, the front part of the satellite, containing the experiments, was unhooked from the rest and came back to earth in much the same way that our astronauts do. Look at the chart and see how this was done.

As soon as the experiments were picked up, they were flown by jet airplane back to the laboratory. Here they are being studied to find out if wheat seeds, fruit flies and frog eggs really do know *up* from *down* in space. In this way we will come to understand more of the behavior of living things right here on earth.



Later BIOSATELLITES will test other things. For example, we know that the small rodent called a pocket mouse has regular feeding habits, depending on whether it is light or dark. (You will find that most animals do.) Well, in one of the BIOSATELLITES we will put a few pocket mice to see how they behave when their regular 24-hour day is changed to a 90-minute one.

In two or three years, BIOSATELLITES will be built to carry small monkeys to test their reactions to thirty days in space in a weightless condition. Earlier monkey flights showed that these little animals make very good "ape-o-nauts" and come back from space flights in good health. But no man or monkey has yet been known to fly thirty days in space. In the picture below you can see into the inner part of the satellite, called the capsule, and observe the monkey captain in the spacecraft cabin. Nearby are sources of food and water as well as the instruments for measuring the effects of space flight on the one-monkey "crew."

BIOSATELLITE flights are just one way our scientists and engineers are using space as a laboratory to find out more about life right here on earth—as well as to discover the wonders of nature that lie out there far beyond our doors.

THE END

Bulldogging ELK

by Keith G. Hay

Picture by Co Rentmeesler
Life Magazine © Time Inc.

"Bulldogging" steers is a favorite pastime for cowboys out West and a "must" for every rodeo. Riding close to a running steer, the cowboy dives from his horse, grabs the steer's horns and wrestles him to the ground. It is a rough-and-tumble game and the fastest cowboy wins.

A new kind of bulldogging is taking place today, with a helicopter as the horse and an elk as the steer. Wildlife biologists are doing this in Colorado—not for fun but for science. The "whirlybird" drives the elk out of the dense forest into an open meadow where the snow is deep. As the elk moves slowly through belly-high drifts, the helicopter flies in low and when just a few feet above the fleeing elk, the biologist jumps onto its back.

After the elk is downed, tags are attached to both ears, and a brilliant nylon band is fastened around the neck. The bright collar can be seen from an airplane or from the ground, permitting the biologists to make year-round observations.

Why do biologists do this? They are studying the seasonal movements—the migrations—of elk herds by following the marked animals. The information helps tell them how long to make the hunting season and how many elk can safely be taken by hunters. It also is a way to secure the elk for branding—or to mark it with the owner's name.

Each fall sportsmen are allowed a certain number of days when they can take a limited number of elk from each herd. If the elk were not hunted, there would soon be too many animals and not enough food. Many would die from starvation during the long, cold winters.

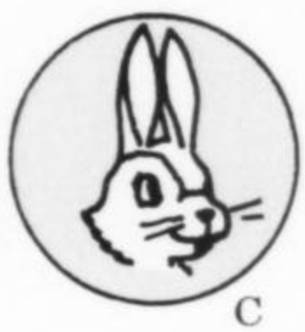
The elk is a big animal, almost as tall as a horse. The Indians called them "wapiti" and prized them as hunters do today because the meat is good to eat, and fine leather clothes can be made from their hides. Hunters travel from all over the states to the high mountain country of the West to try their skill at elk hunting.

Bulldogging from helicopters, tracking the bright collars from the air—these are some of the new ways biologists are using to study wild-animal habits, and it is through their efforts that we have enough animals to hunt, to photograph or simply to look at in the out-of-doors. The cowboy's game benefits both man and elk.

Match the Animal to the Paw Print

A

B



C

D

Every animal makes a different paw print. Can you match these pictures to the right paw print below? Write the correct letter in each box and then spell the animal's name.

1. ☐ _ _ _ _ _ _ _

2. ☐ _ _ _ _

3. ☐ _ _ _ _ _ _ _ _

4. ☐ _ _ _ _ _ _ _

ANSWERS: 1. B-OPOSSUM 2. D-BEAR 3. A-RACCOON 4. C-RABBIT

GRANDFATHER GROUNDHOG MAZE

Grandfather Groundhog came out to make his SPRING FORECAST. His shadow scared him so, he wants to get home quickly. Help him find the right path.

The Woolly Mammoth

Stored in Nature's Deep-Freeze

One of the most interesting prehistoric creatures that roamed the earth thousands of years ago was the Woolly Mammoth. It was an ancestor of our present-day elephant. But it looked quite different because it had long, shaggy fur all over its body and a big clump of long hair on top of its head.

These creatures lived mostly in Siberia and Alaska, where their woolly fur helped protect them from the cold. They also had a large bump on the back where they stored fat so that they could live when food was scarce.

Mammoths had long, curving tusks which they used for fighting and for digging up food. The tusks were about ten feet long; and when the mammoths got very old, sometimes their tusks crossed each other.

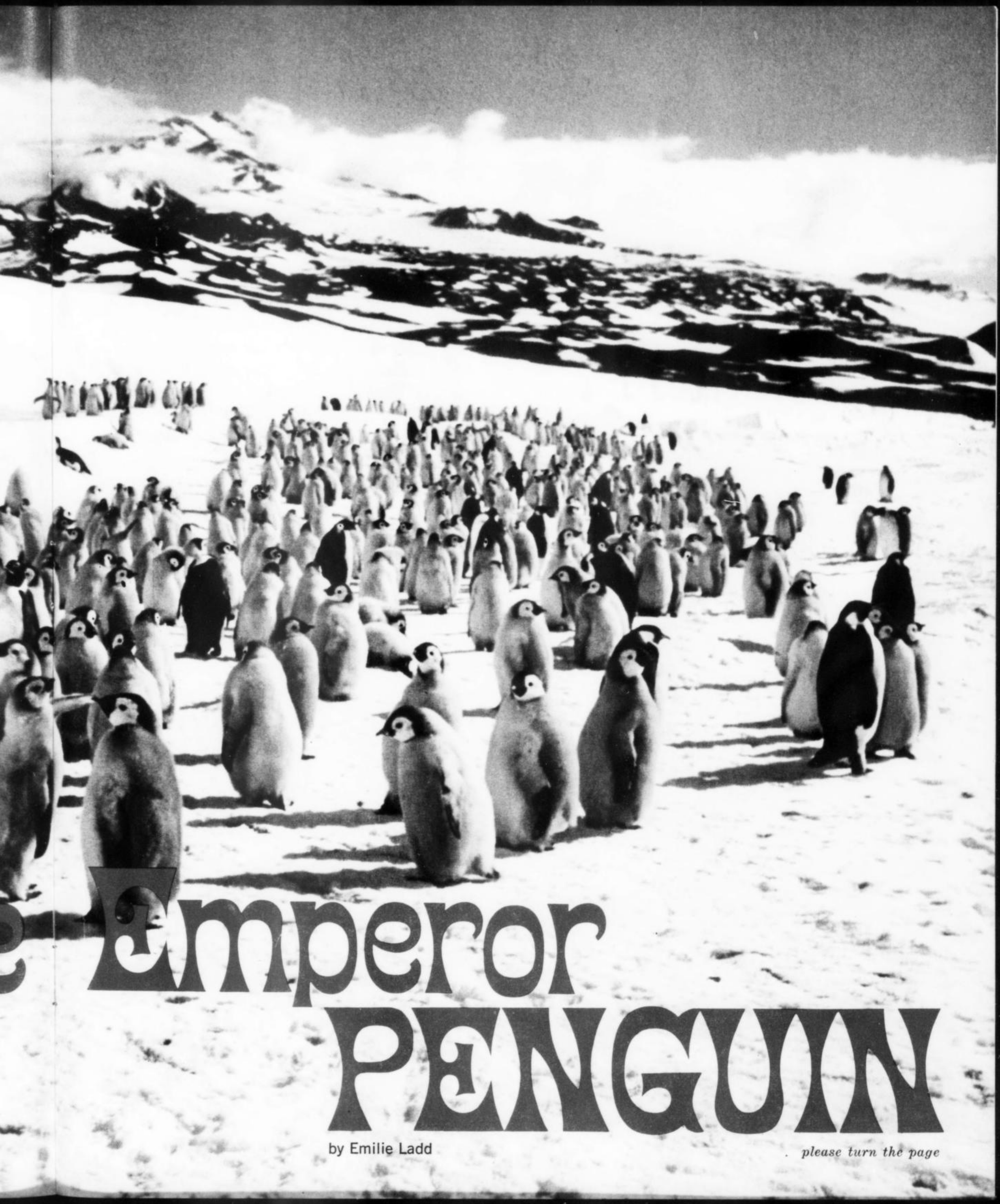
Scientists have learned a lot about Woolly Mammoths because many of them died by falling into cracks or crevasses in glaciers. Or they were covered with snow by avalanches. They were soon frozen and have been perfectly preserved in the deep-frozen ice for thousands of years.

Occasionally parts of frozen mammoths are uncovered by Eskimos in Alaska today. They gather the tusks and sell them for ivory. The meat is fresh enough so that the Eskimo sled dogs think it is a tasty dinner. Even the hide of the mammoth is used by the Eskimos for leather.

The Woolly Mammoths lived during the Ice Age and as the climate gradually became warmer and the ice cap began to melt, the mammoths disappeared. They have never been seen alive since then. Hundreds of thousands of them have been found in their deep-frozen storage.

Pictures painted by Bob Hines

The



Emperor PENGUIN

by Emilie Ladd

please turn the page

Wouldn't it be fun to go to the Antarctic to see the Emperor Penguins as they walk around bowing to one another? They look like little fat men in dress suits, making speeches!

Their backs are black and their fronts are white. They stand 3½ feet or more in height and weigh up to eighty pounds.

The penguins live in the antarctic. The temperature there sometimes reaches 80° *below* zero. Even so, the Emperor hen lays her single egg on the bare ice. Thousands of birds cross miles of ice to reach the same rookery where they lay their eggs year after year. Once the egg is laid, the female, who has not eaten in a month, leaves for the sea to gorge herself on fish and squid.

Then her mate begins his long diet. He will protect the egg for two months, holding it on his feet and covering it with his own "electric blanket"—a special flap of skin and feathers, much warmer than other parts of his body.

When the female returns, the chick has hatched and the male will have his chance to eat again.

About one fourth of the chicks survive; the rest die from the cold—or worse, from the skua, a deadly enemy. The skua is a large, gull-like bird, powerful and sharp-eyed. The skuas watch the rookery closely. The instant a penguin is careless enough to expose a chick, down swoops the skua and snatches it away.

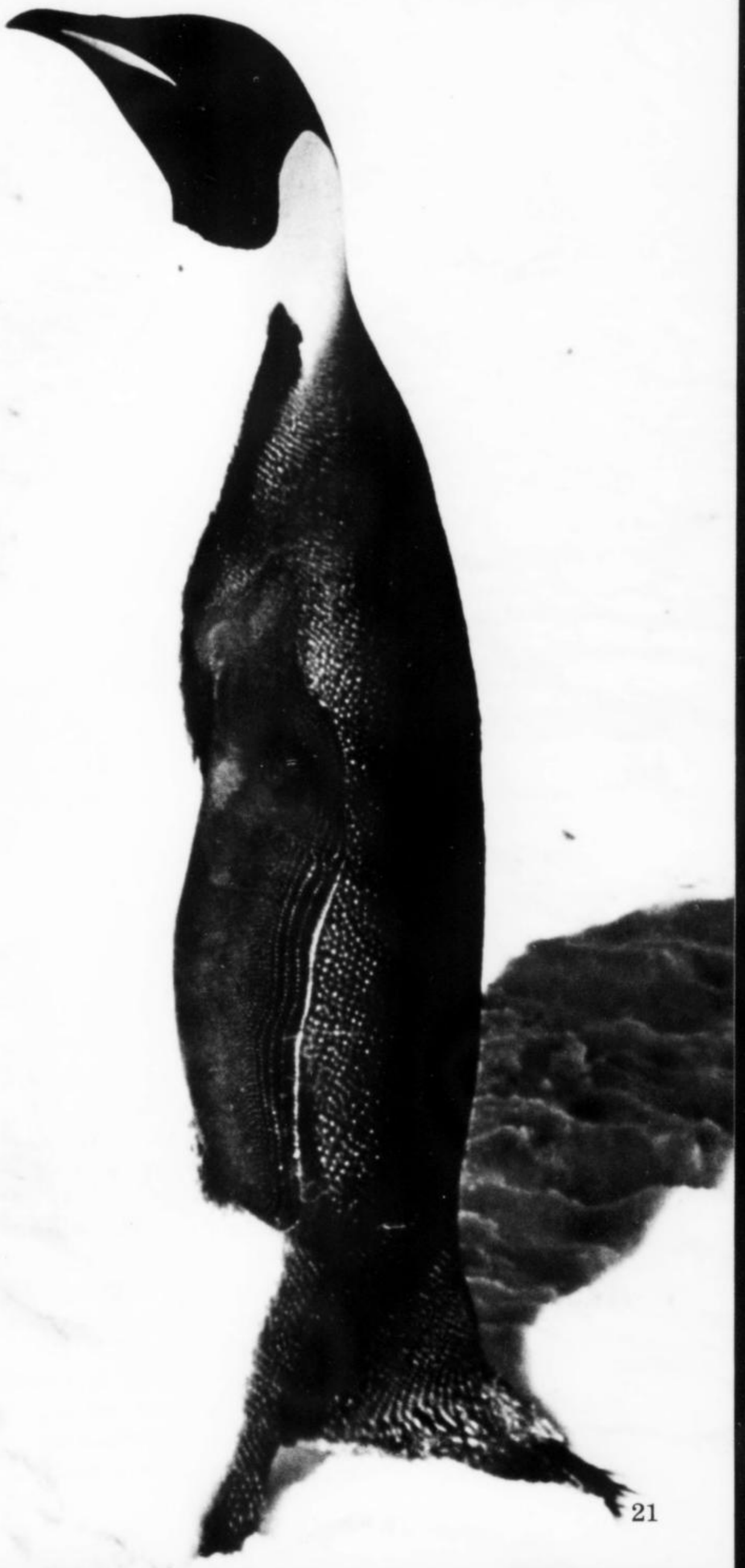
Standing up, the penguin is all dignity, with his immaculate, white-feathered front and gleaming blue-black flippers and back. But he can be playful and amusing, especially in the water where he is an expert. Using his flippers and webbed feet, he can race along at speeds up to 30 miles an hour. He can easily outswim another enemy, the sea leopard. Or if he's close enough to an ice cliff, he can thrust himself hard enough and fast enough straight out of the water to land upright, five feet above his dreaded foe.

On the ice the Emperor waddles awkwardly along, swaying slightly from side to side, waving his flippers for balance. Most of the time when he is tired of walking, he will do a bellyflop and toboggan on his stomach, using his flippers like oars and pushing with his feet.

The penguins are birds that can't fly. They spend most of the time in the water and for fun they take rides on big pieces of moving ice!

THE END

Pictures by Russ Kinne
Photo Researchers, Inc.



Picture by Jack Weaver

THE GREAT SEAL OF THE UNITED STATES

When the bald eagle became the national bird of the United States, the Great Seal was designed. Everything in it has a special meaning.

The bald eagle stands for America's self-reliance as an independent country.

Above the eagle's head are 13 stars framed in golden rays breaking through clouds. Below the shield are 13 red and white stripes. These stand for the 13 original states that made up the new United States of America.

The blue of the shield in front of the eagle stands for our government branches.

Other groups of thirteen objects are to be found in the seal. Can you find them in the illustration before reading any further?

In the eagle's right talon is an olive branch with 13 leaves and 13 olives. This signifies that America's eagle prefers to live in peace.

In the eagle's left talon is a bundle of 13 arrows. The eagle can wage war if he must to keep freedom.

In the eagle's beak is a scroll with the words "E Pluribus Unum" (ee PLOO rih bus YOO num). It means "one out of many"—one nation created out of 13 colonies. Even this motto has 13 letters, although that was probably just coincidence. The government uses this seal to make its documents official.

OUR AMERICAN EAGLE NEEDS HELP

by Willard T. Johns

Picture by Jim Anderson

Our American eagle is not bald, as you can see. The snowy feathers on his head, which match his great fan of a tail, are one of his most striking features. His white head may sometimes look bald at a distance because his body is so dark.

Five-year-old Billy had just been shown a picture of a bald eagle perched beside its giant nest. "That's not an eagle," he exclaimed. "That is a *real* bird!"

To Billy an eagle had been a silver bird on a coin, or a paper bird on a dollar bill. Or it was his favorite golden eagle perched on the flagstaff in his kindergarten room.

He had probably seen live sparrows and robins before he ever saw pictures of them. But perhaps he had never seen a real eagle gliding high in the air unless he lived in or visited certain parts of Florida, the Great Lakes, the Pacific Northwest seacoast, or Alaska.

Before George Washington became our first President, the bald eagle was selected as our national bird. In those days the eagle was seen often. Now there may be fewer than 5000 bald eagles living in the entire United States, not including Alaska.

The bald eagle must live in natural wild places near lakes, rivers or seas. Fish is his favorite food. He and his "mate-for-life" look for the tallest trees and the highest cliffs. There they will pile 6-foot limbs, straw and dead grass to make a bathtub-sized nest. They use the same nest year after year, and keep adding to it. One eagle's nest in Ohio was used for thirty-five years before a storm blew it down. It weighed 2000 pounds—as much as a young elephant.

When the bald eagle spreads his wings, they spread as far as a tall man measures from head to toe—and sometimes more. These wings power-lift his heavy body almost three miles above the earth. His eagle eyes are able to spot food, even from that distance.

Because of his size and keen eyesight, you would think America's national bird could protect himself. He can—from all members of the animal kingdom . . . except man.

There are several ways we are trying to save the bald eagle from completely disappearing from our country:

1. For twenty-seven years there has been a fine of $500 and/or six months in jail for killing a bald eagle.

2. A year ago the Secretary of the Interior, Stewart L. Udall, ordered several other protective steps to be taken.

The bald-eagle nesting places in the National Wildlife Refuges are closed to the public during the nesting season. This is early winter in the Southeast and February and March in the Great Lakes area.

Timber cutting on Refuges is not allowed within half a mile of trees with bald-eagle nests. Also, trees in danger of falling are to be propped up.

3. In the Pacific Northwest, lumber companies and foresters have started a fund to study eagle nesting places.

4. Jim Anderson, a famed naturalist-photographer who took most of the pictures for this story, is a flying eagle-finder. In a small plane and on foot, he explores the forests and coasts of Washington and Oregon to find trees with nests in them so they may be watched and kept safe. He hopes to find the answers to why the bald eagle is disappearing.

"We're not sure the answers we have now are all true," said Jim. "But they do point out that people are the chief cause. People go too close to nests to look at or photograph the birds and make them leave their nest forever. People use

please turn the page

pest poisons in large amounts and pour too many wastes into rivers and lakes; then the eagle's eggs do not hatch.

"Our problem is that we have waited almost too long. Right now we might have only 25 or 30 pairs of American eagles nesting in Oregon."

The bald eagle is really in trouble. But you can help him. If you live in an area where there are eagles, you should not go near the nests. Don't disturb the birds in any way or let others do so. Children and adults all over America should learn about the dangers to our national bird.

Look in your library for books about the bald eagle. One book you might enjoy is "Vulcan, the Story of a Bald Eagle," by Robert McClung (Morrow, 1955). Then talk about it with your friends, parents and teachers.

In Finland there is a monument marking the last place where a Finnish sea eagle nested. By working together we may prevent the need for so sad a monument to *our* American eagle!

THE END

Picture by M. Philip Kahl, Jr.

A young bald eagle is brown all over. Hunters who don't know birds well may shoot him for a hawk. When he is three years old he grows white head and tail feathers. Allowed his natural life span he lives fifty-five years.

Picture by Jim Anderson

A female eagle lays one to four eggs about three times the size of chicken eggs. The eaglets begin to jump and flap their wings soon after birth. At nine weeks they attempt to fly. At three months they make their first flight from the nest—sometimes as far as a mile. Very rarely, if ever, do they return to their nests.

Picture by Karl Maslowski

Adventure II—The Discovery of Little Village

Ranger Rick And His Friends

Story by J. A. Brownridge

Pictures by Lorin Thompson

In Deep Green Wood all the animals were busy seeing that their lovely homes stayed neat and clean. There was plenty to eat and plenty of room for everyone to roam and play.

It was a beautiful morning and Rick was snoozing lazily on a tree limb. All of a sudden he was awakened by much scurrying back and forth along the trail.

"What's going on?" he shouted crossly.

"A lot of visitors are here," shouted Davey Deer. "You'd better come see what the trouble is, Rick."

Down the trail Rick scampered, then skidded to a stop. Coming up the trail was a parade of animals carrying all their belongings. Rick's own cousin, Ralph, led the unhappy-looking group.

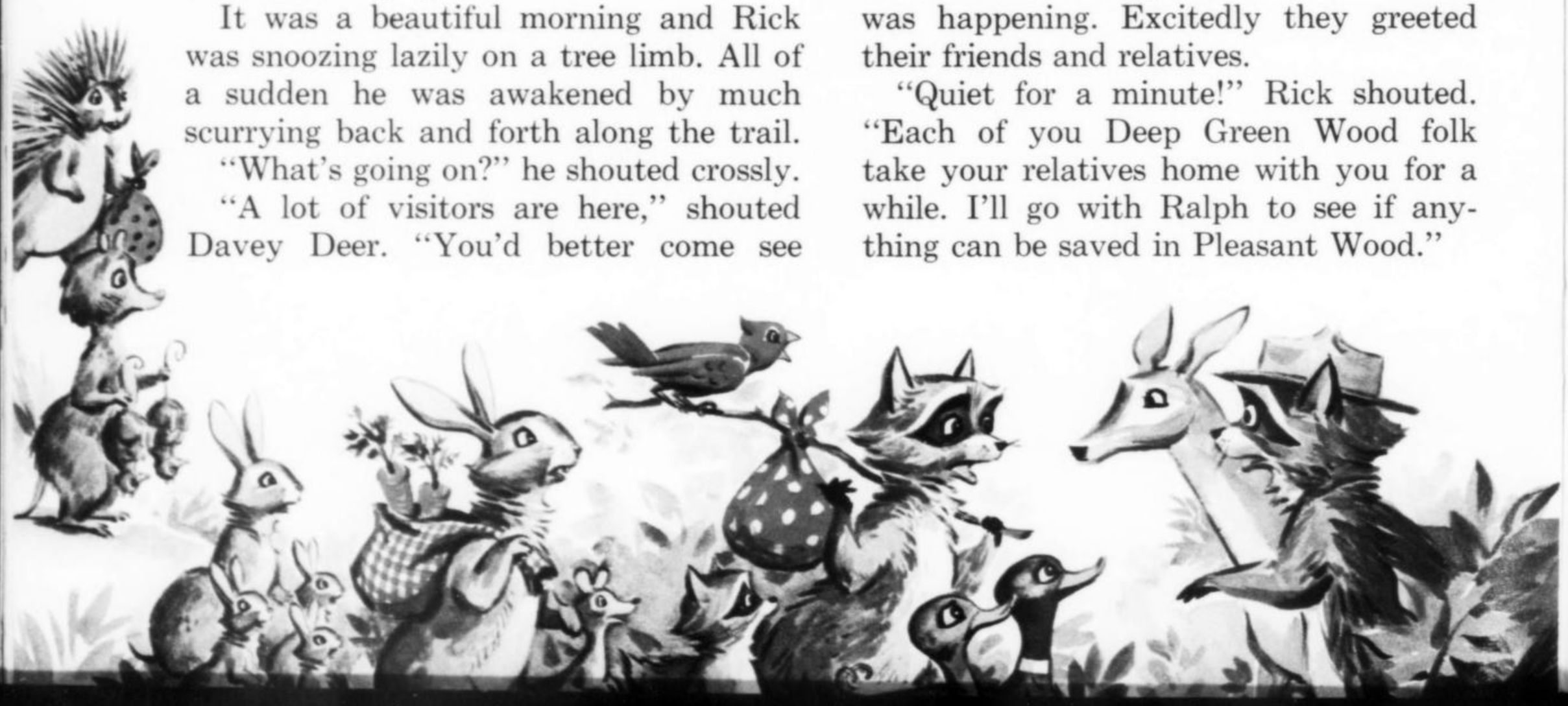
"Hello, Rick," said Ralph sadly. "I'm afraid we'll have to move in with you folks for a while. Our homes in Pleasant Wood are being torn up by monster machines."

"Why are they doing that?" Rick asked.

"Somebody said they're building a new shopping center for the people in Big Town," replied Ralph.

By this time all the animals of Deep Green Wood had gathered to see what was happening. Excitedly they greeted their friends and relatives.

"Quiet for a minute!" Rick shouted. "Each of you Deep Green Wood folk take your relatives home with you for a while. I'll go with Ralph to see if anything can be saved in Pleasant Wood."



Away raced Rick and his cousin through the woods to the big highway. There they stopped, watching the cars and trucks zip by. They looked in both directions until everything was clear, then darted across.

"You and your friends must have had a tough time crossing here," said Rick.

"We almost lost Tom Turtle and Polly Possum," said Ralph.

On they ran around Big Town to where Pleasant Wood had been. Instead of green trees, bushes and grass, there was an ugly brown hole. A cloud of dust raised by growling, noisy bulldozers hung over everything. A big fire blazed in the middle of the hole. Only the other day Pleasant Wood had been a lovely, quiet picnic area for the people of Big Town and a home for many animals and birds. Soon it would be a busy collection of stores and a big parking lot.

"Oh my," said Rick, "there isn't a thing left!"

"We were lucky to escape with our lives," replied Ralph. "I don't know what we're going to do now."

"There's nothing we can do here" said Rick. "Let's go back to Deep Green Wood and make some plans."

Slowly they began their long trip back. As they rounded the bend into Deep Green Wood everything seemed to be quiet but everybody was busy. Visitors had been moved in with friends and the place was crowded but friendly and happy.

A week went by. Things began to change. The animals were used to having lots of room to play and find food. Now,

please turn the page

every time they turned around, someone else was right there. The young folk started quarreling and snapping at one another. Parents, trying to keep peace, were getting cross. Each one blamed someone else for the trouble, just as people do.

Rick knew that bigger troubles were sure to come.

Another week went by. Then trouble really started. Deep Green Wood was only so big and could provide food and homes for just so many animals. Now there were too many animals and food was getting harder and harder to find.

Parents were worried. They had to have food for their young ones and themselves. Otherwise they would get weak and maybe even sick.

While they were living so close together, sickness could spread fast. Those that didn't die would be easy prey for their enemies. Something had to be done.

Rick and Ralph had been scouting the country to find a home to take the place of Pleasant Wood. Finally they came to Little Village.

Not very many people lived there, but you could see they loved their trees and parks because everything was neat and clean. No litter could be seen anywhere. But there was no wildlife around. This worried the people of the village, so they had held a meeting to find out why. They asked the forest ranger to come. He told them there was no place for wildlife to live or find food. He said wildlife needed places to hide and build homes.

After the meeting, the people started putting up nesting boxes for birds and raccoons. Farmers piled up brush shelters for wildlife. They let grass grow along the fences. The way it was now it looked like heaven to Rick and Ralph, the raccoon cousins.

"Come quickly, Ralph," yelped Rick. "We must see if there's room for you here." Through the woods they dashed. There wasn't an animal around. They went into the fields and found every brush pile empty.

"Hurray!" shouted Ralph. "Let's hurry back and get the rest of the gang."

Away they ran, forgetting how tired they had been just a few minutes before. Back in Deep Green Wood they were met by a scene of wild excitement.

Cubby Bear and Charlie Bear were fighting furiously over an old honey tree. Pudgy Porcupine and Philip Porcupine stood hissing at each other over a piece of tree bark. All around them hopped the other animals, chattering, scolding and shouting at one another.

"Stop it!" shouted Rick and Ralph together. Slowly the animals quieted down, so Rick and Ralph could tell them about Little Village and its empty woods and fields.

Suddenly everyone was happy and friendly again. They rushed to gather their belongings to move to their new homes. Rick and his friends walked with their relatives, helping them on their way.

When they reached their new home, everyone was delighted. Off they scampered to find places they could move into and get settled.

"Thanks for all your kindness," called Ralph before he, too, started looking for a house. "As soon as we're settled, I hope you will all come back to visit us."

Ranger Rick and his friends returned to Deep Green Wood. Once more everything was peaceful and quiet. Another threat to their homes had been overcome.

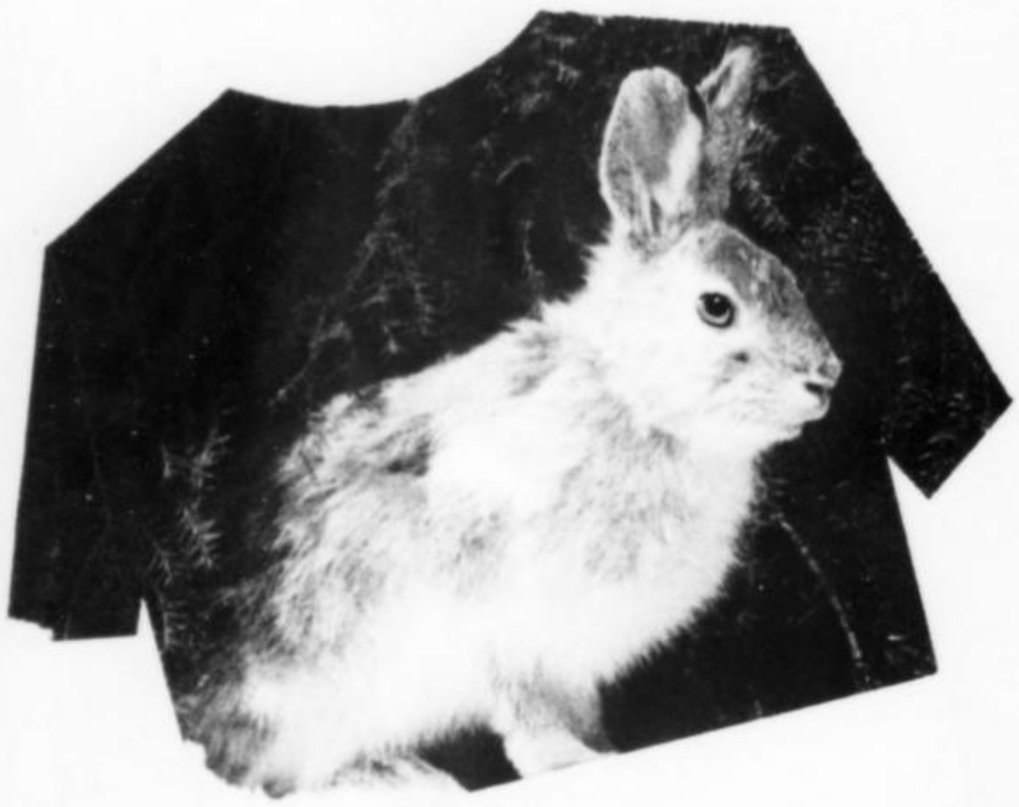
Note from Ranger Rick:

Will you remember that only a certain number of birds, animals or fish can live in a small area? If too many live there some will starve or die of disease. They might even be killed by enemies who live on the weak and injured. Trees and soil are damaged by animals who overeat. Nature demands that a balance be kept—so much food for so many creatures. It can't safely be changed.

See you next month!

THE END

WINTER WARDROBES



Pictures by Leonard Lee Rue, III

The Snowshoe Rabbit

by D. A. HOOVER

Reddish-brown in summertime,
But for winter, no,
Nature's miracle performed
Makes him as the snow.

The varying hare is a beautiful reddish-brown in the piny woods of summer. If you see him daintily browsing and get a look at his large feet, you will know why he is sometimes called the snowshoe rabbit. When the air sharpens and great white flakes of snow begin to fall, a wonderful change comes over the hare. Gradually the darker colors are shed and as the snow piles in drifts, his coat becomes the purest white. The Great Snowy Owl must look sharply to see him against the landscape. So long as the hare doesn't move, he is safe.

Evening has fallen. The winds have calmed. The big red sun has dropped below the horizon far to the southwest. A moon rises to bathe the silent forest with pure silver. Then in a little clearing, the snowshoe rabbit comes out to play.

His large feet are his snowshoes. He frisks safely on top of the fluffy snow as if suspended on fairy wings. In his white coat he can play in the snow with less chance of being harmed.

The Snowy Owl

There are several other creatures besides the varying hare that are protected by their white coats when the snows come.

One is the Snowy Owl. He is a large bird—sometimes twenty-seven inches tall. When he spreads his wings, they reach over five feet.

Mr. Owl is almost all white, but Mrs. Owl is flecked with dark brown feathers. Because their coats blend in with the landscape, they can easily hunt prey without being seen and they don't make any noise themselves when they are in flight.

Their nests are high in the mountains and the owls soar down, usually at night, to catch little rodents and rabbits to eat. Then they return to their homes and hoot and shriek. This is when they *are* noisy.

The Ptarmigan

In the fall a hush comes over the Far North. Most of the animals have migrated South. But there is one bird who stays and that is the Ptarmigan. He will be safe when the snow falls because he molts his coat of brown, white and grey. His new feathers are pure white and looks like a little snowdrift and is hard to see against the winter wonderland.

The picture shows the ptarmigan changing back again to warm weather dress in the spring. The snow is beginning to melt and soon all the animals that went south for the winter will return for the summer months.

Pictures by Walt Disney Productions © World Rights Reserved

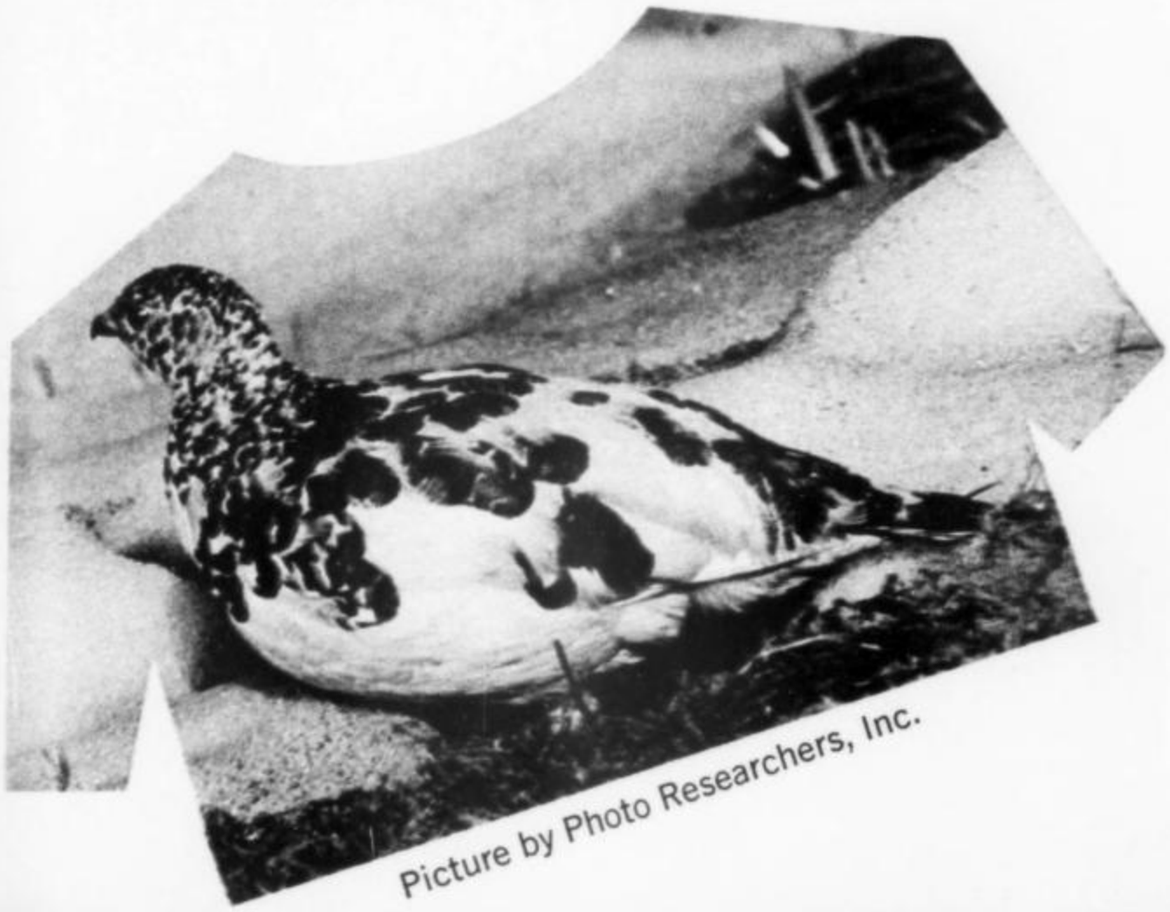
The Polar Bear

Near the North Pole it is very cold. But there is one animal who loves the cold. That is the Polar Bear.

Unlike most bears, who sleep all winter, the polar bear is always out in the cold except when the cubs are born.

On the back cover is a picture of two little cubs playing on the ice. The cubs are born with their white coats.

Even though they play most of the time, they do have to eat. Their favorite food is seals. When a bear is ready to attack a seal, he creeps across the ice as softly as a cat. Then he lies flat against the ice before he makes the pounce. This way the seal doesn't see him because his white fur makes the bear almost invisible.

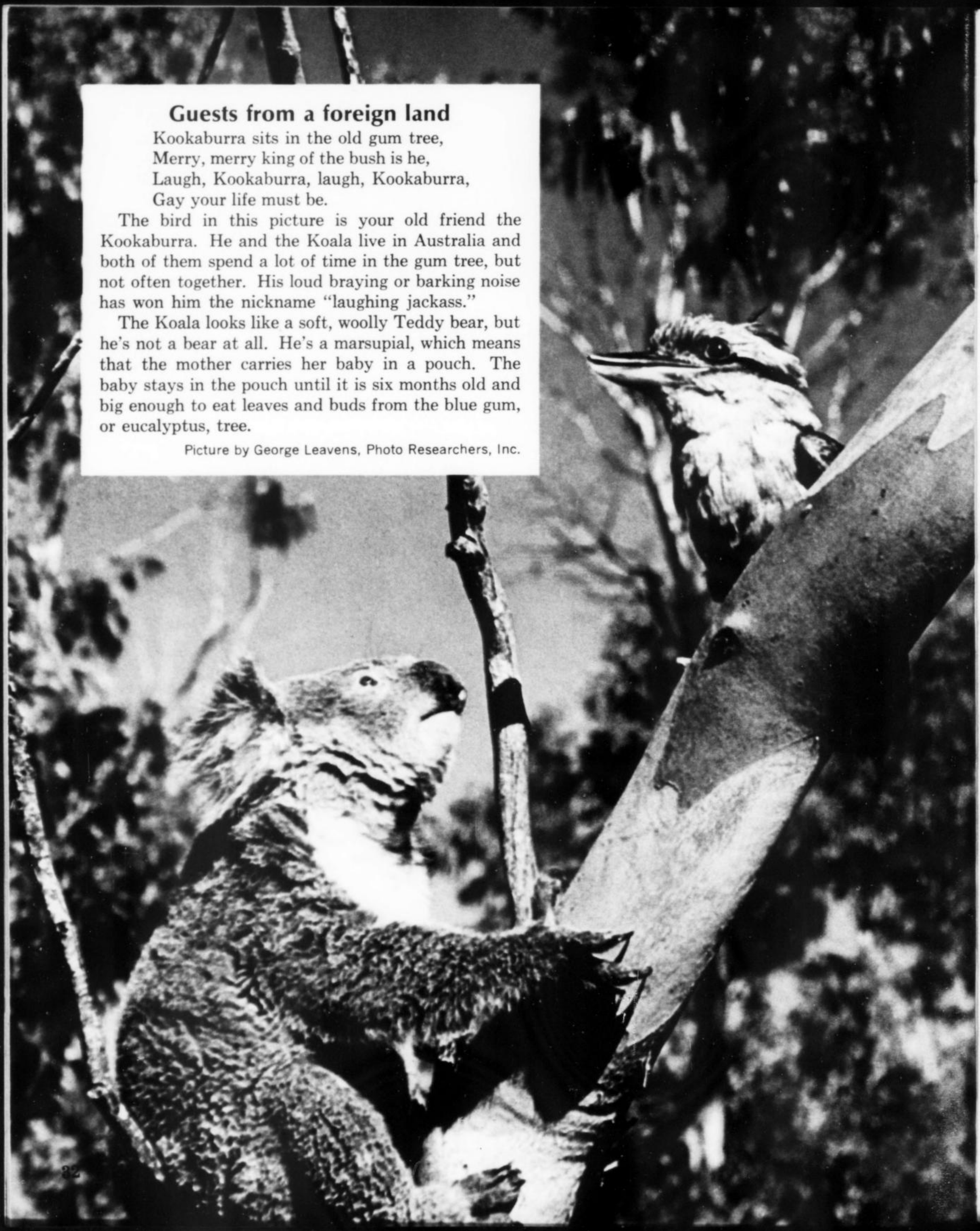


Picture by Photo Researchers, Inc.

Editor's comment:

Life is never easy for some wildlife because they must hide from their enemies in order to stay alive. A white winter coat is part of their natural protection.

As the days grow shorter and colder, their grayish-brown hair begins to change to white. This change in color to match their surroundings is called "animal camouflage."



Guests from a foreign land

Kookaburra sits in the old gum tree,
Merry, merry king of the bush is he,
Laugh, Kookaburra, laugh, Kookaburra,
Gay your life must be.

The bird in this picture is your old friend the Kookaburra. He and the Koala live in Australia and both of them spend a lot of time in the gum tree, but not often together. His loud braying or barking noise has won him the nickname "laughing jackass."

The Koala looks like a soft, woolly Teddy bear, but he's not a bear at all. He's a marsupial, which means that the mother carries her baby in a pouch. The baby stays in the pouch until it is six months old and big enough to eat leaves and buds from the blue gum, or eucalyptus, tree.

Picture by George Leavens, Photo Researchers, Inc.

WHO-O-O KNOWS

by Wise Old Owl

What Do You Think?

Put a check mark under Yes or No after each question. Then read the numbered answers below. How right were you?

	YES	NO
1. Do you believe toads cause warts?	___	___
2. Do you believe cats can see in the dark?	___	___
3. Do you believe animals talk to each other?	___	___
4. Do you believe all birds can fly?	___	___
5. Do you believe a tortoise lives longer than an elephant?	___	___
6. Do you believe bulls hate red?	___	___

Answers

1. No. The skin of a toad has lumps which look like warts, but these can do us no harm. In fact toads, like frogs, do a great deal of good by eating harmful insects.
2. No. Cats cannot see in complete darkness. But the pupils of their eyes can enlarge to let in every bit of light possible. So they see in very dim light.
3. Yes. In a way. A mother robin coaxing her babies to try their wings is getting an idea across. So is a hungry kitten mewing to its mother. You can think of many other examples.
4. No. The penguin is one bird that cannot fly. The world's biggest bird, the ostrich, that sometimes weighs 300 pounds, is another. And chickens don't fly very well, do they?
5. Yes. A tortoise may live more than 200 years. That is longer than any other animal lives. An elephant may live 75 to 80 years.
6. No. Bulls do not see colors. They see the world in black and white and gray.

February Acrostic

1.	W_____	When frozen, this is ice.
2.	A__	This is all around us.
3.	S___	Winter blanket for the earth.
4.	H_____	A lot of these are around on February 14th.
5.	_I_____	His birthday is February 12th.
6.	N____	Where the coldest winds come from.
7.	G_____	His day is February 2nd.
8.	T____	Some of these lose their leaves in winter.
9.	O____	Its water seldom freezes.
10.	N___	These were stored by squirrels to eat now.

(Answers At Bottom of Page)

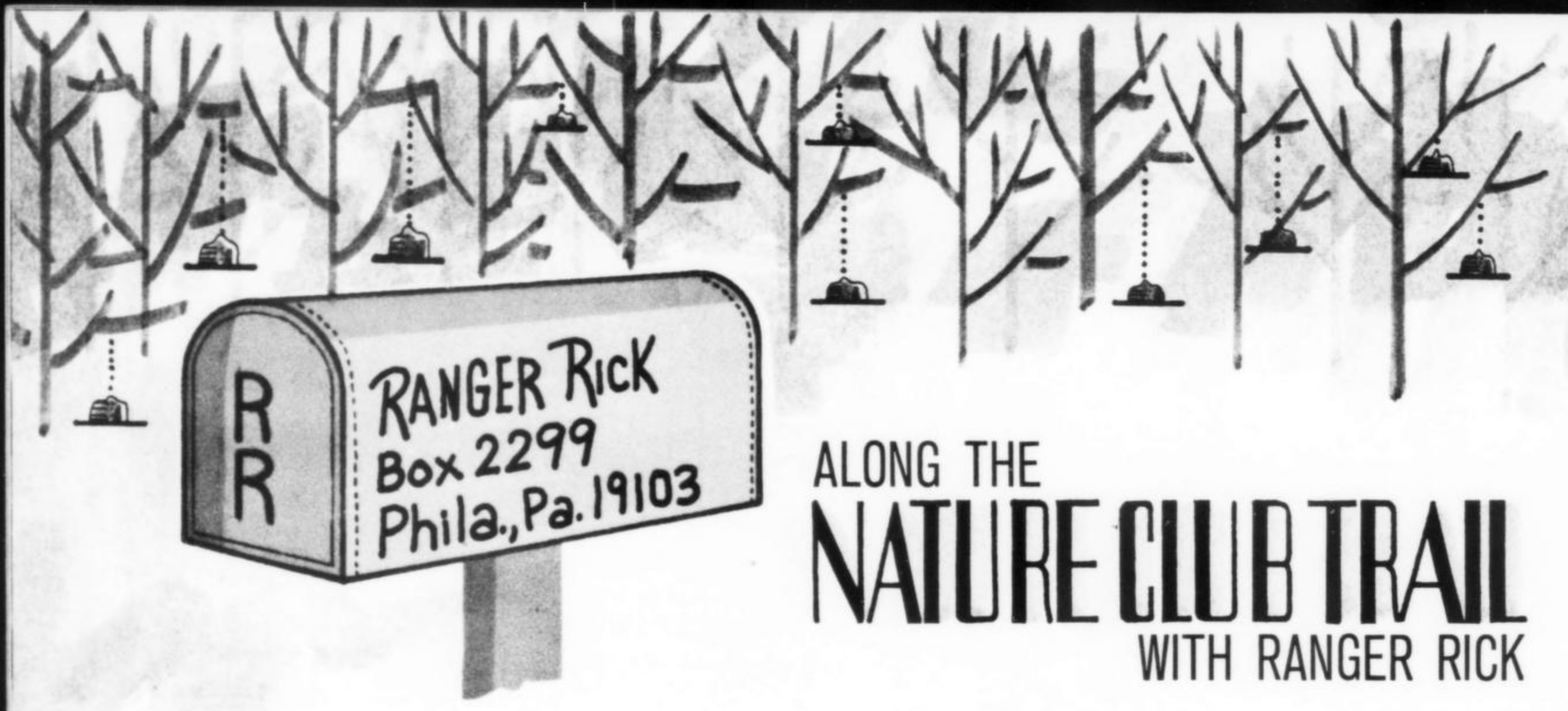
The Question Box

Why doesn't the ocean freeze?

Except for water in the Arctic and Antarctic oceans, most of our oceans never freeze. Currents of warm water from oceans where it is summertime are always being carried to the oceans where it is wintertime. The oceans' rolling waves and swells also help to keep them from freezing. Then, too, salt water has a lower freezing point than fresh water.

NOTE: Send nature questions to me:
Wise Old Owl, Ranger Rick, P.O. Box 2299, Philadelphia, Pa. 19103

Answers to February Acrostic: 1. Water. 2. Air. 3. Snow. 4. Hearts. 5. Lincoln. 6. North. 7. Groundhog. 8. Trees. 9. Ocean. 10. Nuts.



ALONG THE NATURE CLUB TRAIL WITH RANGER RICK

Hi, Rangers!

This second issue of your magazine went to press before there was time for letters from you to get to me. I can hardly wait till I do start hearing from you!

By now you have received your membership cards and other things. Perhaps you have decided to start a Nature Club among your friends. There are many things in this magazine that will be more fun to do with friends than by yourself. If someone's father has a good workshop, chances are he can help you build birdhouses. It won't be too long before birds are looking for homes in which to raise families.

Another club idea for winter is a visit to a zoo, natural-history museum or planetarium. Perhaps another parent will find out about interesting places that are within traveling distance of your homes and help you plan a trip.

As fellow club members you can share all kinds of equipment which some of you happen to own—from microscopes to books and chemistry sets. And you'll find that hobbies like rock or butterfly collecting, and nature crafts like outdoor photography and casting animal tracks are more fun when you have someone else's work to compare with yours.

Another thing you can do now—if any of you are dreaming of a family camping trip—is to find out more about our National Parks and Forests. Write to the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Ask for free order forms and price lists telling of bulletins and maps about camping and vacations in the National Parks and Forests. Then you can go over the lists together and decide which sound most interesting and helpful. They cost very little—from about five cents to thirty-five cents each.

RANGER RICK

THE ICE-CUBE MYSTERY

Here's a surprise to spring on your friends. You need an ice cube floating in a glass of water, a piece of string with a loop at one end large enough to go around the ice cube, and a salt shaker. Tell them that you can lift the cube out of the glass with the string. Ask if anyone else would like to try it. When each one has tried to lasso the cube, it's your turn to work magic!

You rest the loop on top of the ice cube and sprinkle some salt on loop and cube. Wait several seconds, then carefully pull up on the string. The ice should come too.

See if anyone can figure out why. What happens is that salt lowers the freezing point of water. Ice, you know, is water at 32 degrees above zero. When its freezing point is lowered, it melts. Melting requires energy in the form

of heat. The melting ice removes heat from the water around it so the temperature of some of the water goes below 32 degrees. It refreezes the ice cube with the string in it.

YOU and Haiku

I hope you remember from last month what the sign of the Ranger Hat means. It marks something special for you to do and send in so I can use some of the best things on the Nature Club pages.

This time I want you to write a certain kind of small nature poem that comes from Japan and is called a haiku (sounds like high-koo). Children all over America have written haiku in school and for their own pleasure. These poems are as simple and natural as breathing. There need be no rhyme. But there is a very special pattern of three lines. And there is a special beat—five beats for the first line, seven beats for the second line, and five beats for the third line. Fitting the words for what you want to say into this pattern is like doing a delightful puzzle.

Here are some haiku written by American school children. Read them aloud and you can hear and mark the beat.

Clouds on blue roads pile
Nature's traffic in the air.
Will it rain or snow?

* *

A red bird sings his
Sweet song sitting on a branch,
Gazing down at earth.

* *

Sunset lowering
Like a graceful bird swooping
On hills and mountains.

To wonder at some lovely natural thing, the smoothness of a pebble, the soft flick of a squirrel's tail . . . to hear rain whisper . . . to touch a cat's velvet paw . . . to smell an orange . . . to taste a fresh wind . . . these are a few of the million favorite things in your world. These, and a million more, are what haiku are made of. Try some and see. Then send your haiku to me, Ranger Rick. My address is on my mailbox. Be sure to tell me your name, age and address.

The Groundhog Legend

Hi, Mr. Groundhog! If this is your day, February 2, you'd better turn around. You might miss your shadow. It is behind you. You're supposed to be frightened by it and go back to sleep for another six weeks while we have more winter. You can stay out only if it is a cloudy day. And then, so they say, there will be an early spring. That may not be true, but it is fun to see what the weather will be on Groundhog Day. What *is* true about you is that you are more often called a woodchuck. You are related to the squirrel, only you are much bigger, almost two feet tall. You are a great help to other animals who often move into the cozy homes you dig—after you move out.

Picture by Leonard Lee Rue, III

Ollie Otter's FUN and GAMES

Add-a-Letter Riddles

1. I'm like a monkey but bigger.
   At times I may be tricky,
   But put a T in front of me,
   And I'm long and Scotch and sticky.

2. I am the sound a cow makes.
   But add an N to me
   And I will shine up in the sky
   On land and on the sea.

3. I'm a wise old bird
   And I fly by myself,
   But just give me a B,
   And I'll sit on your shelf.

Answers:

1.Ape—Tape 2.Moo—Moon 3.Owl—Bowl

Chuckles

LITTLE BROTHER: Did you ever hear the story of the three holes in the ground?
BIG BROTHER: Not yet.
LITTLE BROTHER: Well! Well! Well!

* * *

TEACHER: Do we get fur from a skunk?
PUPIL: As fur as possible.

* * *

HOTEL CLERK: Do you want a room with running water?
OLD COWHAND: No, thanks! What do you think I am, a trout?

* * *

FIRST PELICAN: Pretty good fish, eh?
SECOND PELICAN: They fill the bill!

Frog-Pond Games

Trace a frog pattern from the fat little frog in the picture. Draw a lot of them on lightweight paper and cut them out.

Place frogs on tables, chair seats, floor, etc., around the room. Each player is given an aluminum pie plate for a pond. Have a bundle of soda straws on hand. Players must go about the room picking up frogs and putting them in their ponds. But they dare not touch them with their hands. They do this by placing a straw over a paper frog and sucking the air from the straw. This makes the paper cling to the straw so long as the player holds his breath. The frog is held against the straw by the air underneath it. The one who collects the most frogs wins.

This game can be played as a relay. Players divide into two teams. The same number of frogs as players are spread out on a card table and two ponds are put on a table across the room. Teams line up at the card table. The first one in line picks up a frog with his straw and carries it across to his team's pond. Frogs that are dropped must be picked up with the straw from wherever they fall.

Roots You Can See

by Frances M. Miner
Brooklyn Botanic Gardens

Have you ever wondered how much of a plant is underground, or how the roots usually hidden in the soil really grow? You must have seen the round, thick taproots of beets and carrots at the vegetable market. Next time look closely for small branch roots at the side. There were still smaller ones that broke off when the plant was pulled for market.

Grass has another kind of root system. Dozens of thin, stringy, fibrous roots hold the plant in the ground and keep particles of soil from blowing or washing away. When the plant is pulled up, many of these rootlets are broken off.

In order to see how these tiny underground dwellers grow, you can make some special plantings. For this you will need two glass tumblers, four or five clean paper towels and a package of stringbean seeds.

Soak eight or ten bean seeds in a glass of water overnight. The next day line each tumbler with a clean paper towel folded to fit. Crumple up a second clean towel and stuff it lightly in the center to hold the first towel in place. Carefully tuck three or four of the soaked beans between the glass and the towel lining so that you will be able to watch how they grow. Have one or two beans about one inch from the top of the glass and push the other beans to within one inch from the bottom. Moisten the paper towels completely and then pour off all extra water except about a half inch at the bottom of the tumbler.

Picture by Marion Broida

Set one tumbler in a dark cupboard and the other in a window, both at ordinary room temperature.

Look at them each day to see what is happening. Add water as needed to keep a little in the bottom at all times.

Notice where the roots start. Watch which way they grow. Which ones grow faster—those in the tumbler in the window or the ones in the tumbler in the cupboard? Notice how the roots branch as they grow. In the ground these branches help to anchor the plant more firmly.

All common plants have large root systems. Students have found that roots and rootlets of a single rye plant stretched end to end may total more than 200 miles!

Note to parents: Full-grown bean plants can be raised in these tumblers if they are kept in bright sunshine and watered occasionally with *very weak* fertilizer. Remember to keep the paper towels always moist.

THE END

What Do You

You know snow is cold. But did you know snow is also warm? In the bitter-cold snowy weather, chickadees, bobwhites and snow buntings dive right into a snowbank to get warm!

Snow becomes a cozy warm blanket because of the air in it. Look closely at a snowflake and you will see that it is a clump of six-sided crystals with lacelike designs. There is air in each crystal and also air between the crystals as they pile up on the ground.

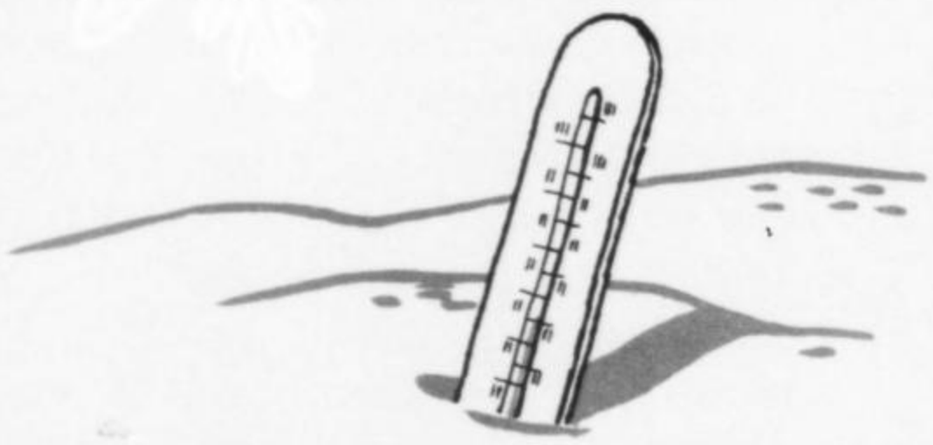
The air in the snowbank is still. It stays the same temperature as the ice crystals around it, 32 degrees above zero. The air above the snowbank might be much colder because moving air cools much faster. In fact, the windier it is, the colder the air.

How Warm Is a Snow Blanket?

You can find out how warm a snow blanket is by testing it yourself. Use a regular household thermometer. First take a reading of the air temperature and write it down. Then stick your thermometer a little way into a snowbank. Wait a few minutes before you pull it out and read it. Take the temperature of the snowbank in the middle and at the ground. Compare the readings that you wrote down. Is it warmer the deeper you go? Is the snowbank warmer than the air above?

That fluffy white blanket which seems so cold when you scoop it up to make snowballs really *is* a blanket after all. In weather much colder than 32 degrees it keeps plants alive.

By the way, have you ever noticed that mittens keep your hands warmer than gloves when you play in the snow? Now you can guess why. Yes, they have more room for air.



Measuring Air in Snow

You can test the amount of air in snow. Scoop snow into a large can but do not pack it down. Take the can into the house to allow the snow to melt. The amount of water you end up with, compared to the amount of snow you started with, will give you an idea of how much air was in the snow.

The amount will not always be the same because the ice crystals that make up different snowstorms are not of the same size and shape. Some crystals tend to pack together more closely than others.

How Snow Forms

Water in the form of gas is called water vapor. This vapor is carried by the air high above the earth where it is very cold. Warm air also rises and carries tiny bits of dust from the earth and salt grains from the ocean. The water vapor freezes on these tiny bits of dust, and ice crystals begin to grow.

Their size and shape depend on the kinds of clouds through which they fall on their way down to earth.

If these tiny crystals fall through clouds with lots of water vapor in them, they grow into beautiful shapes. They all have six points or sides, but no two are ever exactly alike.

Pictures by James Reid

Know About Snow?

by Sara B. Murphey

Try this. Staple a piece of black velvet onto a square of cardboard and catch some snowflakes on it. The black background shows off the delicate crystals like jewels, especially if you look at them with a hand magnifying glass. Now you can see that each flake is different in size and shape.

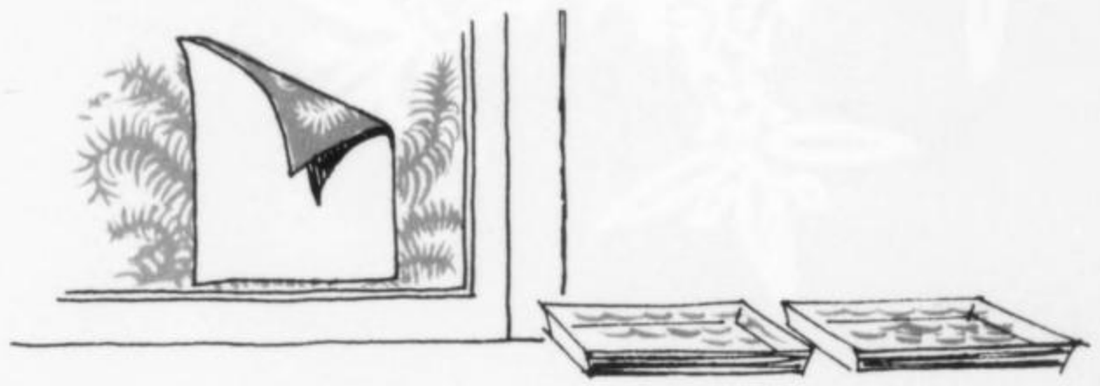
Your own breath contains water vapor, which also freezes in the cold air of winter. Sometimes you can form frost crystals by breathing for a while on a woolly scarf.

Fairyland Prints

The air in your house has water vapor in it too. Beautiful fairyland scenes sometimes form on the inside of the panes if your windows are not covered on the outside by storm windows. This happens only when the air outside is very cold. When the warm water vapor in the indoor air touches the pane, the vapor is quickly chilled. Crystals usually start forming around some tiny bump or speck of dust on the glass and once they start they keep growing.

You can make a print of a frost picture on a bright morning before the sun heats the outside pane and melts the design.

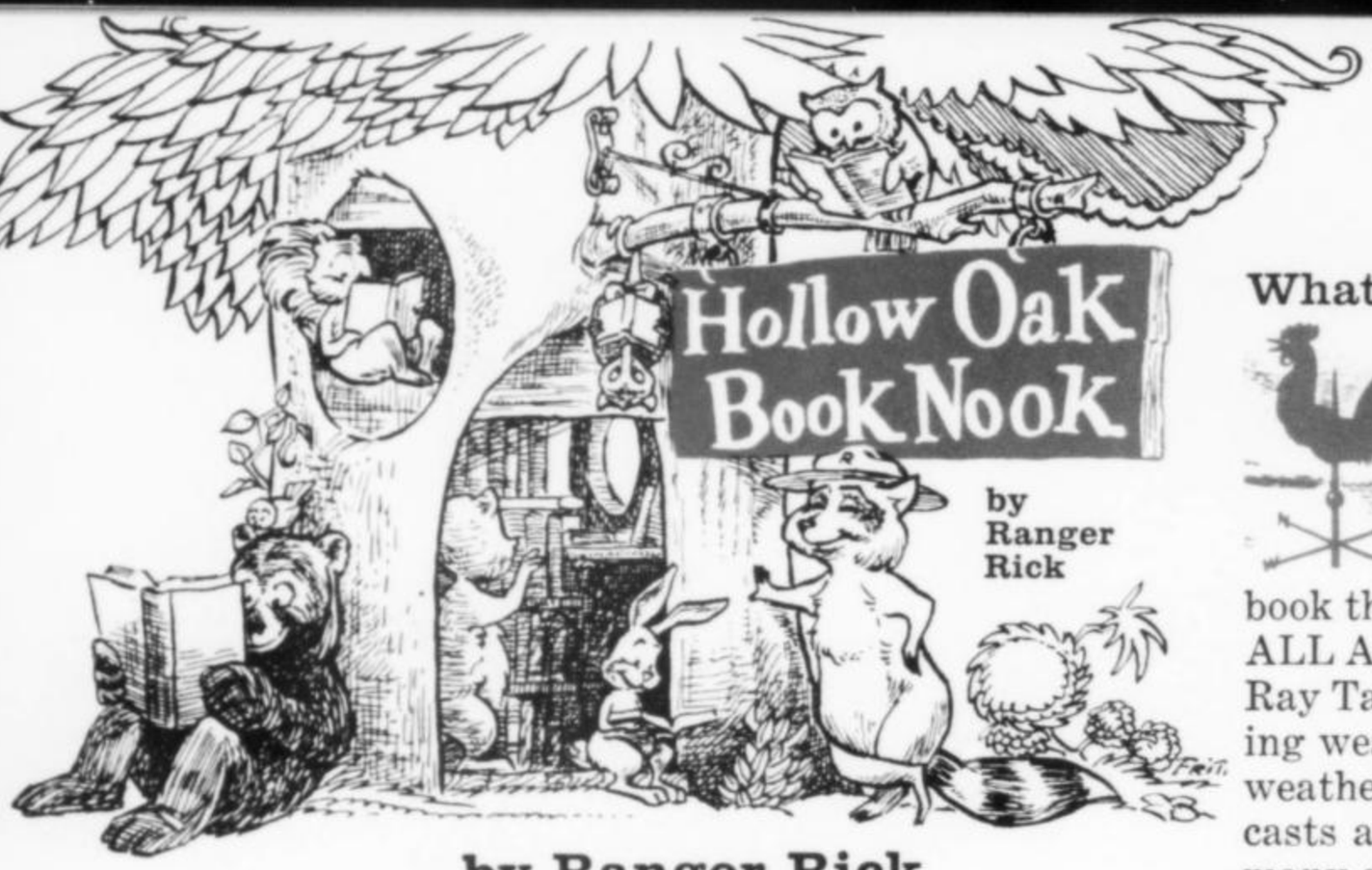
Just for fun try this experiment. You will need 8″ by 10″ sheets of blueprint paper and two shallow pans large enough to hold the paper spread out flat. Half fill each pan with clear water. To one of the pans add a tablespoonful of peroxide.



With cellophane tape quickly fasten to the glass a sheet of blueprint paper with the sensitive side toward the pane. Press it against the frost design. The sunlight will turn parts of the paper pale blue. The frost pattern stays white on the paper. This takes about two minutes. Spread the paper in the pan of plain water for a few minutes, then put it in the pan that has peroxide in it. When the blue is just the shade you want, spread the paper flat to dry. Collecting frost prints is an interesting hobby. It's fun to compare them and they make pretty pictures to hang in your room.

Measuring Snowfall

Would you like to measure a snowfall? Put a large tin can in a spot away from the house but not under a tree. The best place is on a bench or box above the ground. After a snowstorm take a ruler and measure how much snow has fallen into the can. It is more fun if some of your friends do this too, so you can compare notes. On a calendar you can keep a record of the time and date when each snowstorm begins and ends and how many inches of snow fall. Keep your calendar so you can see how the weather next year compares with this year's.



by Ranger Rick

Dear Member:

In this issue of our magazine, you've had a chance to read about the woolly mammoth, and about snow. The animals in our Ranger Patrol found these articles particularly fascinating, and, since I'm the librarian of the Hollow Oak Book Nook, they asked me to see if I could find books that would teach them still more about those subjects. I'm happy to say that I did find two such books: I've described them below. And for good measure, I've told you about a wonderful book that takes us on a fascinating journey to the wild places of North America, and about THE TALE OF A MEADOW, another wonderful story by Henry B. Kane. If you want to get any of these fine books for your own library, simply use the attached order form.

"Slowly—inch by inch, foot by foot—the ice crept southward. From the far north, great sheets of ice spread out, swallowing the land." So begins Patricia Lauber's exciting book, ALL ABOUT THE ICE AGE. As you read elsewhere in the issue, great woolly mammoths as well as sabre-toothed tigers and other strange beasts, roamed North America at the time the ice floes were marching to the middle of the United States. What happened to these animals? Why did the ice come? Will it come again? For more than 100 years scientists have sought to explain the baffling mystery. The answers they have come up with are described in exciting detail in ALL ABOUT THE ICE AGE.

What Makes Our Weather?

Everybody talks about our weather but only a few people can explain why it behaves the way it does. Our article about snow probably went a long way toward answering some of your questions. Now, here's a book that should answer a lot more of them. It's ALL ABOUT THE WEATHER written by Ivan Ray Tannehill, one of the world's most outstanding weathermen. It tells you how to observe the weather, how to read weather maps, how forecasts are made. And in the process, it explains many of the mysteries of our everyday weather.

Do You Know...

Do you know about the cave where a million bats fly about but never collide? The battle formation of wild Arctic musk oxen? The "cities" in which millions of prairie dogs lived? Or petrified forests? Or sand dunes that "sink"? All these and thousands of other wonders of earth, sea, and air are excitingly described in the THE CONTINENT WE LIVE ON by Ivan T. Sanderson, adapted especially for young readers by Anne Terry White.

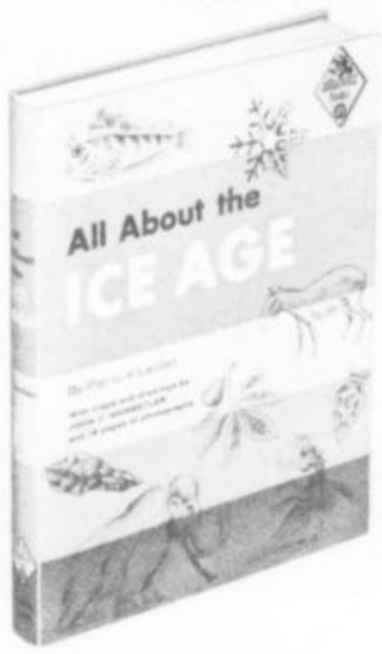
With a famous naturalist as our guide we take a fascinating journey to the wild places of North America. From beginning to end the book is filled with magnificent photographs by some of the world's best photographers.

The Spirit Of The Meadow...

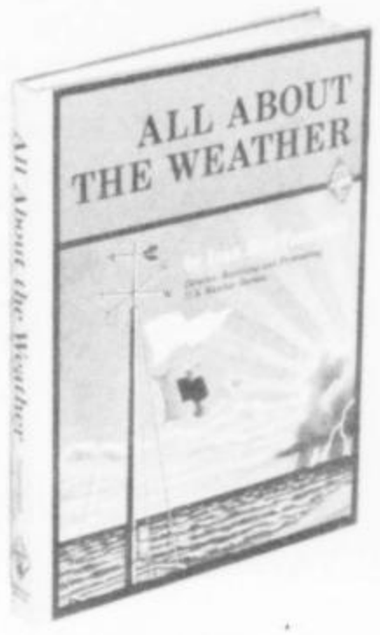
Henry B. Kane's THE TALE OF A WOOD was such a success among the animals here in the Deep Green Wood, and with you members of our nature club, that we're offering another book by Mr. Kane—THE TALE OF A MEADOW. Here's the story of woodchucks, pheasants, and meadow mice. Here are the lush grasses, the wild strawberries, and the daisies and goldenrod that grow along the meadow's edges. Here, also, is the story of the birds and the butterflies that fly over the meadow. And primarily, here is a living record of the animals and birds and insects who live there, seen through the eyes and heard through the ears of a boy who has learned to know these inhabitants at first hand. THE TALE OF A MEADOW will long appeal to readers of all ages who are interested in life about them.

Best, RANGER RICK

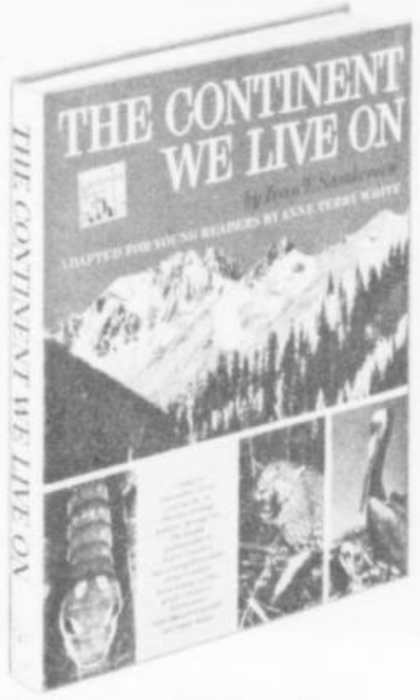
Hollow Oak Book Nook Selections for February



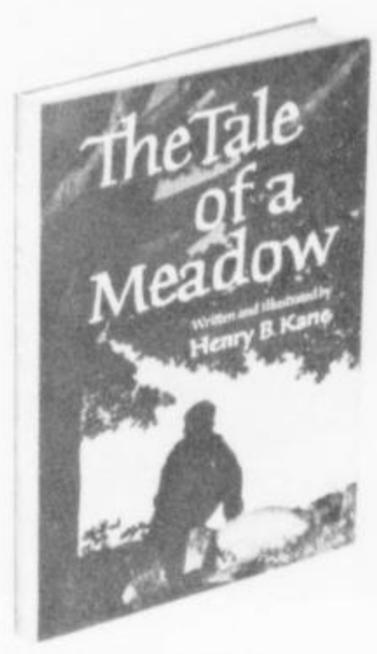
62042 ALL ABOUT THE ICE AGE
by Patricia Lauber. An Allabout book for ages 8 through 12.
(Pub. Ed., $1.95) **$1.60**



62051 ALL ABOUT THE WEATHER
by Ivan Ray Tannehill. An All-about book for ages 8 through 12. (Pub. Ed. $1.95) **$1.60**



62060 THE CONTINENT WE LIVE ON
by Ivan T. Sanderson, adapted especially for young readers by Anne Terry White. For ages 9 and up.
(Pub. Ed. $4.95) **$3.95**



62079 THE TALE OF A MEADOW
written, and with photographs and illustrations by Henry B. Kane. For ages 8 and up.
(Pub. Ed. $3.00) **$2.35**

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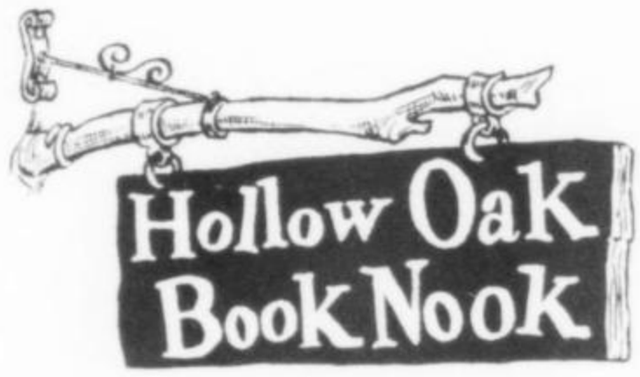

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Dear Member:

Please ask your parents to assist you in completing this form and preparing your payment.

Animal Friends

We Rescued These Coyote Pups

Spring is still a long way off, but these coyote pups couldn't wait for warmer days to start adventuring. Fat and sassy now and ready to go free, they were in a sad state when found soon after they were born.

A hunter came across them in a hollow log that was covered with a snug snow blanket. They were nestled against a dead porcupine which their father had dragged in for their mother to feed on.

When they were brought to me, the pups had about 75 porcupine barbs sticking in them. It took very special care to keep them alive. I had to treat them for infection and find the right feeding formula. But it was worth all the trouble. We never tired of watching them enjoy life —indoors and outdoors—chewing shoes, wrestling, and playing with the raccoons. We will miss them when they go back to their natural home.

Story and picture by Olive Glasgow, Wisconsin

Editor's Note: While this incident apparently ended happily, wild creatures seldom make good pets. Living with humans does not equip them for life in the wild. It usually is wise to leave wild life young alone.

Picture by Patricia Caulfield

Alice the Alligator

by Ryan B. Walden

Hello! My name is Alice, and I am an American alligator. If you want to find my home, you will have to travel to the swamps of southeastern United States. I will grow to be one of the largest of the living reptiles, and I am related to the dinosaurs that lived many hundreds of years ago.

Come over to the edge of the pond and meet my mother. She is very different from most reptile mothers (which include snakes, turtles and lizards) because she takes good care of me and my brothers and sisters.

Several weeks ago she climbed out onto the shore and began to make a nest. She scraped together a high mound of moist leaves, twigs, branches and even growing shrubs. When the mound was about three feet high and six feet in diameter, she dug a hole in the top of it and laid thirty hard-shelled eggs.

After all the eggs were in place, she covered them with material from the edge of the mound. In a few days, the plant material began to decay and produce heat.

Reptiles are cold-blooded animals, which means their body temperature is the same as that of the air around them. They cannot produce the heat needed to hatch their eggs in the same way birds do. Many reptiles depend upon the heat from the sun, but mother alligators are very clever because they use the heat from decaying plants to help hatch their eggs.

I was in one of the eggs, and it was nine weeks before I was big enough to come out of the egg. As my brothers and sisters and I hatched, we began to make peeping sounds. Our mother, who had been near the nest to guard it and reshape it, hurried over to help remove the sticks and leaves which covered us. We were about nine inches long when we crawled out of the eggs and we stayed with our mother for almost three months. Some alligator mothers may not take as good care of their babies as ours does. We are lucky.

We had to learn to find our own food as soon as we were hatched because our mother did not feed us as some animal mothers do. We soon learned how to catch small fish and frogs as well as large insects and worms that live in and near the water. During the time we are with our mother, she protects us from danger.

When I am on land I am rather slow and clumsy, but there are many very special things about me which make me an expert in the water. My long, flat jaws do not even make a ripple as I swim about looking for food. If I dive under the water, I have special valves on my ears and nose which close by themselves to keep the water out. The passageway to my throat is closed off by my flat tongue if I open my mouth under water.

In two months I will have grown from nine to almost sixteen inches; and when I am full grown, I may be more than eighteen feet long, or as long as a station wagon.

Because our hide is so valuable for making leather, many of my brothers and sisters will be killed before they are five feet long. If we are not protected, we may become as extinct as our relatives, the dinosaurs.

Editor's Note: If you have wondered how to tell an alligator from a crocodile, just look at the picture on the opposite page. When the mouth is closed, the alligator has a rounded, broad snout. The crocodile has a more pointed snout and its teeth all show when its mouth is shut.

Alligators can swim with just their nose and bulging eyes showing above the surface like the picture at the bottom of the page.

Most alligators like to sun themselves on a floating log like the young one below.

Skunk Cabbage

by Dr. Paul H. Fluck

The Skunk Cabbage is one of the first wildflowers to come up in February. Little brownish spikes poke through the ground and peek out of the snow.

Picture by Ken Brate

"PHEW! What a smell!"

This is what you might think about the Skunk Cabbage. You might also think it's an animal because of its name. It's not. The Skunk Cabbage is a wildflower.

Look for a spot in the woods where the snow has melted and the ground shows through. At first you might not see anything sticking out of the ground except some brownish spikes that look something like the spikes on the helmets of Prussian officers. Look carefully and you'll see a Skunk Cabbage flower pushing through.

Its roots grow so firmly in the ground that if you want to pick a flower, you might have to dig up the whole plant with a spade.

The Skunk Cabbage plants provide food for some animals—pheasants, grouse, quail, wood ducks and even bears.

Different birds build their nests underneath the big cabbage leaves. Here they are protected from heavy wind and rain. They are also protected by the plant's smell! The plants seem to warm the ground and thaw it out. Then the birds can probe the mud to find worms as early as February or March.

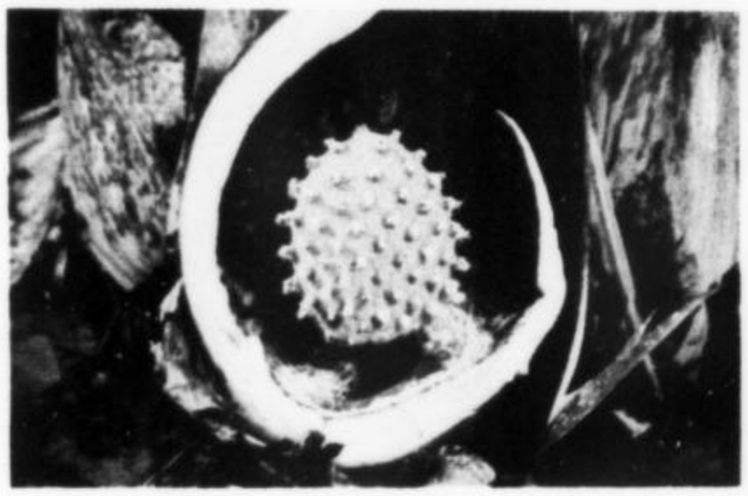
You might say "PHEW" to the smell of the Skunk Cabbage, but from early February to late fall, these plants are useful to wildlife. Besides, they are pretty.

Then a strange flower pushes through. It looks like a big, brown, fat, round Jack-in- the-Pulpit flower.

Picture by Jesse Lunger

The "pulpit" is curled tightly around the "Jack." It might be hard to see inside because it's only about the size of the first joint of a man's thumb.

Picture by Louis Quitt

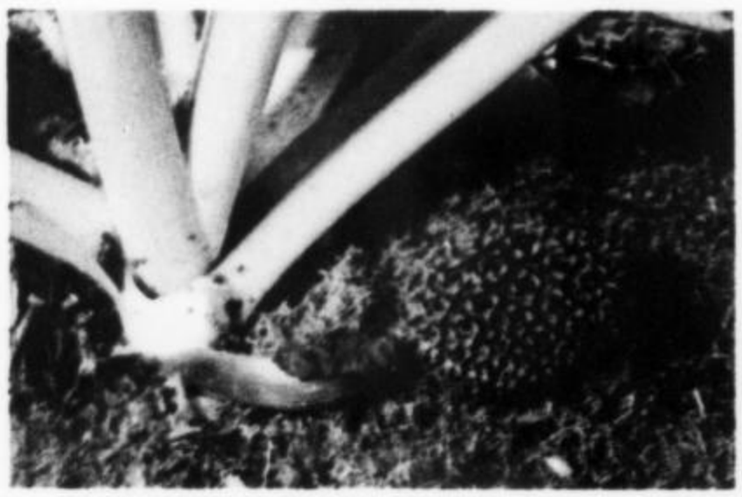


The little "Jack" is covered with tiny yellow flowers which are fertilized by small insects. They are attracted by that awful smell and often they are trapped inside the flower and never get out.

Picture by Veryl Scheibner

Later in the spring big green leaves grow and the woods look like a cabbage garden.

Picture by Russ Kinne



The Skunk Cabbage dries up at the end of the summer into a big, black fruit that looks like a lopsided baseball.

Picture by Veryl Scheibner

THE END

Let's Talk It Over

This month's magazine is so filled with interesting stories, beautiful photographs and experiments to try, that I have had a most difficult time selecting which ones to talk over with you. If I could, I would have liked to discuss all of them.

Were you surprised to learn that snow is a cozy warm blanket, and also how it helps keep the many different things warm? Each snowflake is so beautiful, but it is also very fragile. When snowflakes pile on top of each other, they form a pretty thick white blanket that contains a lot of air. The next time it snows, wouldn't it be fun to measure the amount of air in this snow? Be sure you follow the directions in the story "What Do You Know About Snow?" If you fill a large mixing bowl with fresh clean snow and take it indoors, what do you think you will have when it melts—a tablespoon, a cup or a glass of water? Did you guess correctly?

When was the last time you had green beans for dinner? Did your mother take them from a can or were they of the frozen kind? Do you know how beans grow? Do they grow on a vine above the soil, or under the ground like carrots?

The story "Roots You Can See" on page 37 tells how bean seeds get their roots and grow. Try this experiment. It is an easy one, and you will learn a lot about how beans grow. You must, of course, follow carefully the directions with the two glasses of bean seeds. Everyone in your family will enjoy watching to see whether the glass of beans in the cupboard, or the one on the window sill, grows more quickly.

You might ask your teacher if you could try this same experiment in school, so that all the children would be able to see what happens.

And please don't forget to try the ice cube mystery trick. It is lots of fun, and if you do exactly what the directions tell you it works perfectly. Try it by yourself first, then show your father how it is done. He might be quite surprised to see how well you can do it. Another day, surprise your friends when they come to your home. Now do you know why we sprinkle salt on icy sidewalks and driveways?

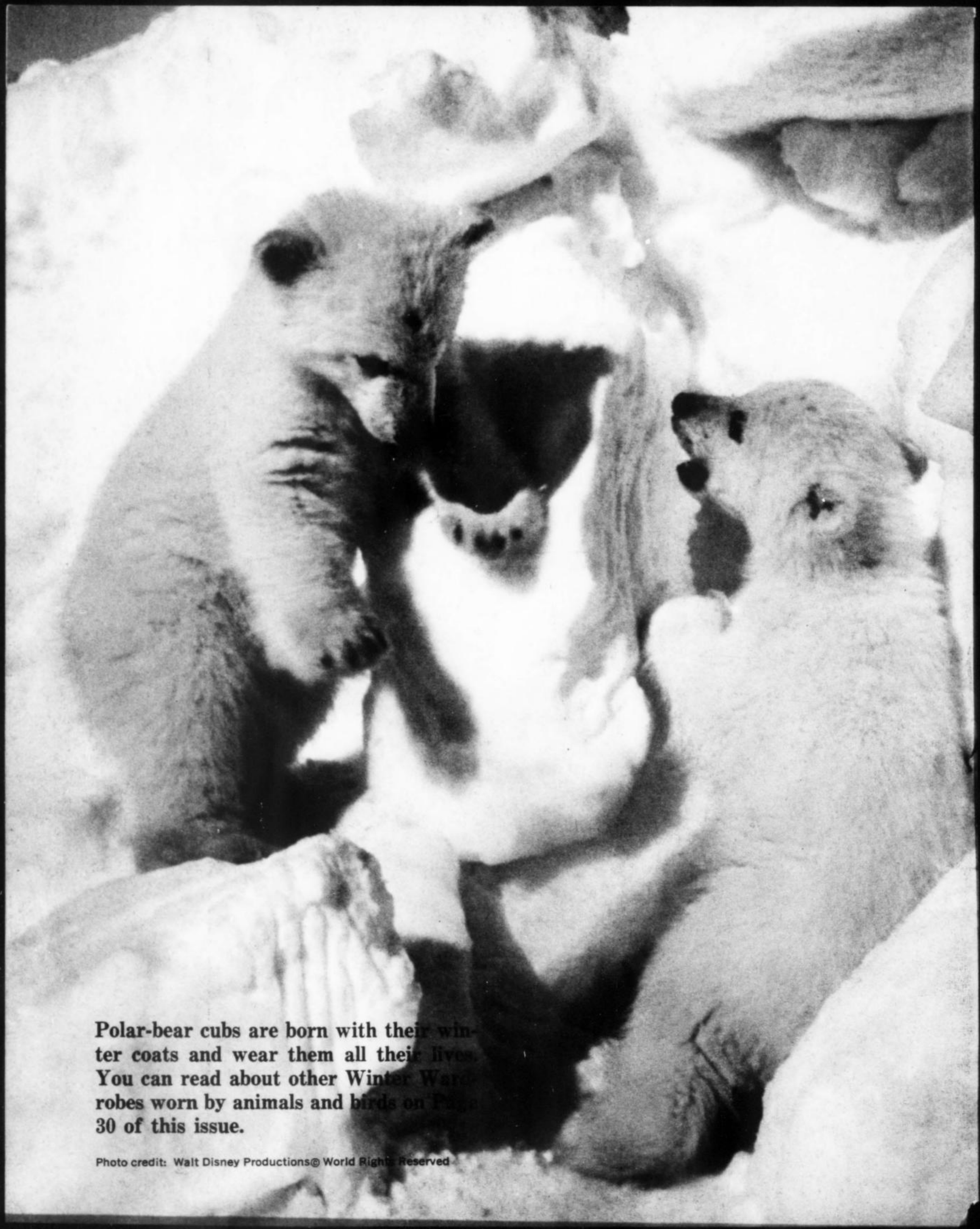
Miss Frances

The little raccoon
Looked out at the moon
From his home in the old hollow tree:
The wind, warm and light,
Blew soft in the night
And the woods were as still as could be.

The little raccoon
Smiled back at the moon,
For contented and happy was he;
The woodsman that day
Had seen him at play
And his axe never touched the old tree.

by Jim Wells

Picture by Leonard Lee Rue III



Polar-bear cubs are born with their win-
ter coats and wear them all their lives.
You can read about other Winter War-
robes worn by animals and birds on Page
30 of this issue.

Photo credit: Walt Disney Productions© World Rights Reserved